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MOTOR AGE

WORLD'S RACERS LEAVE NEW YORK FOR PARIS

CREW OF ITALIANS ON THE ZUST

M. ST. CHAFFRAY AND THE DE DIONITES

NEW YORK, Feb. 12—Special telegram—Six motor cars were started at 11:14 o'clock this morning on a race of 20,000 miles, three-quarters around the world, northwest from New York to Paris by way of San Francisco, Alaska and Siberia. The starting signal came from a lady-like revolver of 22 caliber fired by Colgate Hoyt, president of the Automobile Club of America, after F. J. Wagner as official starter had lined the cars up at the corner of Forty-third street and Seventh avenue. The cars were given an even start and moved away slowly to the north with a squad of mounted police making pace. A grand stand at the starting point was filled with motoring notables and Broadway for ten blocks was packed so densely all traffic was suspended.

The crowd numbered perhaps 10,000 and the police could not handle it. The sight at the start warranted the interest, the cars being equipped in unique ways for Arctic hardships. Montague Roberts with a big American flag was wildly cheered.

The six cars regularly entered as competitors in the race and crews are:

1—De Dion, French—G. Bourcier St. Chaffray, Captain Hans Hendrick Hansen, M. Autran.

2—Motobloc, French—M. Godard, M. Hue, M. Livier.

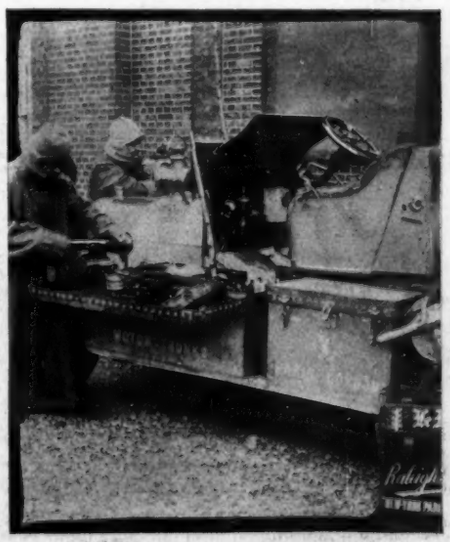
3—Sizaire-Naudin, French—M. Pons, M. Deschamps, M. Berthe.

4—Brixia-Zust, Italian—Antonio Scarfoglio, Emilio Sirtori, Henri Haaga.

5—Protos, German—Lieutenant Koeppen, Engineer Hans Knape, Engineer Ernest Maas.

6—Thomas, American—Montague Roberts, George Schuster.

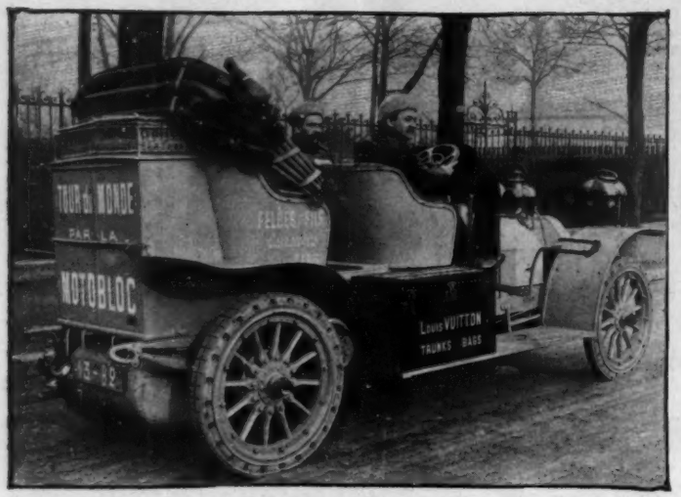
The race is being promoted by Le Matin,



SHOWING MAMMOTH TOOL BOX

of Paris, assisted on this side of the Atlantic by the New York Times and Chicago Tribune. The newspaper promotion angle has in reality made it a race, for unexpectedly the New York World cut into the game yesterday by sending M. Lelouvier and two mechanics in a Werner to go by the southern route across the continent in an endeavor to beat the others to Paris. Lelouvier claims to be the originator of the race idea, but would not start in the Le Matin effort because of a disagreement over the route. The Werner reached Philadelphia at 4 o'clock this morning and will leave tomorrow for York Pa.

While there had been skepticism in the trade and among the general public as to whether this race would ever be started, the arrival of the foreign participants with their cars aboard La Lorraine last Saturday completely changed the face of the matter and New York woke up to the fact that this stupendous and unequaled feat was really to be attempted by at least half a dozen cars. With the realization that the race was to be a fact, a keen intesest in it began to spread, despite the fact that most of the New York papers were pursuing the policy of ignoring the event, because of its being promoted by a Paris newspaper, with a New York paper as ally, although it is the most heroic



MOTOBLOC CREW AND EQUIPMENT

ITALIAN CAR, THE BRIXIA-ZUST

thing in the way of a long-distance contest ever attempted by men, machines or beasts. Compared with this undertaking all the feats of overland travel, both civic and military, pale; Napoleon's passage of the Alps is but a trifling effort beside this crusade, and the Glidden tour is as a Sunday-school excursion to it. Even the great drive from Pekin to Paris is but a moderate feat by comparison, according to those who should know, and of these who should know there is one man in the present party, who laid out the Pekin to Paris route, and who knows both Siberia and Alaska, a soldier of fortune who has traveled afoot around the world, who has served in two wars, been shipwrecked at sea and lost in the desert and had hairbreadth escapes in the tropics and the polar regions, M. Lelouvier, who disputes the claim of M. St. Chaffray as the father of the proposition for the present race.

M. Lelouvier arrived on La Lorraine with the other foreigners and with him were his Werner car and two mechanics. He is not entered for the race, but is off to beat out the contestants in it if he can. He says that despite all caviling the feat is possible. He has traveled through Alaska and Siberia and his wife is now in Siberia arranging for supply stations along the route. M. Lelouvier differed with M. St. Chaffray, the director general of the race, as to the route that should be taken across Siberia, and that is one reason why he is not entered as a contestant. He will not follow the course of the others after crossing Behring strait, but will go his own way and try to reach Paris first. He started on Tuesday.

Quite a party of New York motorists went to the pier last Saturday to welcome the foreign contestants. Besides M. Stephen Lauzaune, editor of Le Matin, and Mme. Lauzaune, there were eighteen in the party. These were: M. G. Bourcier St. Chaffray, director general of the trip; Captain Hans Hansen and M. Autran, who will accompany him in the de Dion car; M. Godard, who will conduct the Motobloc, and with him MM. Hue and Livier; M. Pons, the driver of the Sizaire-Naudin, and M. Berthe and M. Deschamp, who will ride with him; Signor Antonio Scarfoglio, conductor of the Zust car, and Emilio Sirtori, his driver, and Henri Haaga, mechanician. There was also Ernst Maass, the third of the German crew of the Protos car, who had come from Paris while his associates brought the car from Berlin. Lieutenant Hans Koeppen and Engineer Hans Knape were there to greet him. Then there was M. Lelouvier and his crew of the Werner car, which remained apart from the general party and altogether independent of it.

The foreigners were taken to the Hotel Knickerbocker, at Forty-second street and Broadway, and quartered there. On Sunday the hotels and restaurants about Times square put up decorations, and in that section of the city at least it became apparent that something unusual was on. Sunday afternoon the men were taken for a short ride about the city and up the river twelve miles to Yonkers. When the turn was made there one of the French mechanics asked if that was as far as they had to go in America, and where was the Behring strait, as he did not see it.

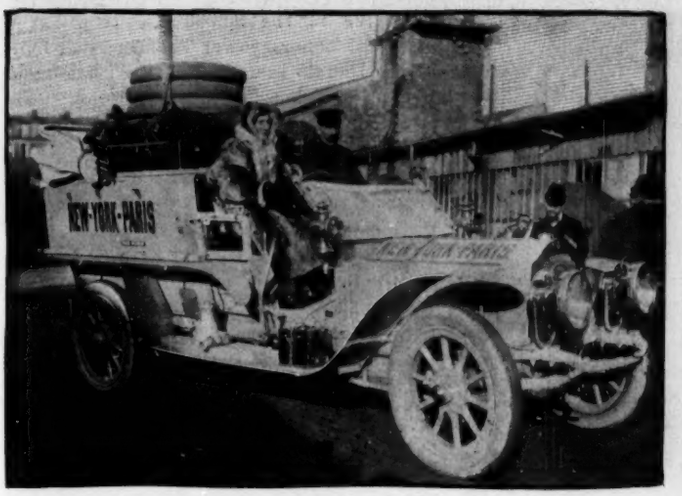
Monday the foreigners were busy getting their cars out of the steamer and through the customs. The cars were all entered free under a bond that they were for the race and would leave the country by way of Alaska. From the pier the cars were taken to the garage of the Automobile Club of America. Montague Roberts, the only American entrant, was on hand to welcome the foreigners Saturday and his Thomas Forty arrived here from Buffalo Monday night.

The contestants had a reception and dinner in their honor given by the promoters of the race Monday night. Tuesday they were entertained at luncheon by the Importers' Automobile Salon and Tuesday night they were the guests at dinner of the Automobile Club of America. They lived on the fat of Broadway while here and stored up some warming adipose for the ravages of the cold lean days that they will spend in Alaska.

When they left here the world racers had a schedule calling for their arrival at Buffalo on Friday night, but according to reports of road conditions they will do some snow shoveling before they get there and will do well to be there on Sunday.

At the Monday night dinner to the contestants Jefferson DeMont Thompson offered $1,000 to any American in any car

FOREIGNERS ON BOARD LA LORRAINE ON REACHING NEW YORK



No. 1, the French de Dion Car

Sizaire-Naudin, the One-Cylinder in Race

who will carry the stars and stripes in the race and present the flag to the Automobile Club of France in Paris with the compliments of the A. A. A. This offer evidently was meant for Montague Roberts, the only American entrant.

Arrangements have been made for the contestants in the race to file a regular form of telegram at stated points and thereby check their progress throughout the race. The route will be substantially that published in detail in Motor Age February 6. They take the boat at San Francisco to Seattle, thence to Nome.

Make-Up of the Party

G. Bourcier St. Chaffray, who will drive the de Dion car, has been the promoter of a number of big events in France and had much to do with the management of the race from Pekin to Paris last year. He is an expert driver and has been appointed director general of the race by Le Matin, the Parisian newspaper which is the prime promoter of the affair. Captain Hans Frederick Hansen, who rides with M. St. Chaffray, made a bet before leaving Russia that the race would be ended by some contestant arriving at Paris before June 15. M. Autran, who goes with the de Dion as mechanic, acted in that capacity on the de Dion car which finished second in the race from Pekin and therefore has had valuable experience driving across Siberia.

M. Godard, driver of the Motobloc car, drove the car that finished third in the race from Pekin. He has been in a number of big races in Europe and is one of the founders of the Motobloc company. Hue and Livier, who go with him, are racing men of experience.

M. Pons, who drives the Sizaire-Naudin car, started in the Pekin-to-Paris race riding a motor tricycle. He was lost in the Gobi desert and left his machine there. He is being backed in the present undertaking by a wealthy Frenchman of sporting proclivities. His assistants, Berthe and Deschamp, are men thoroughly familiar with the car.

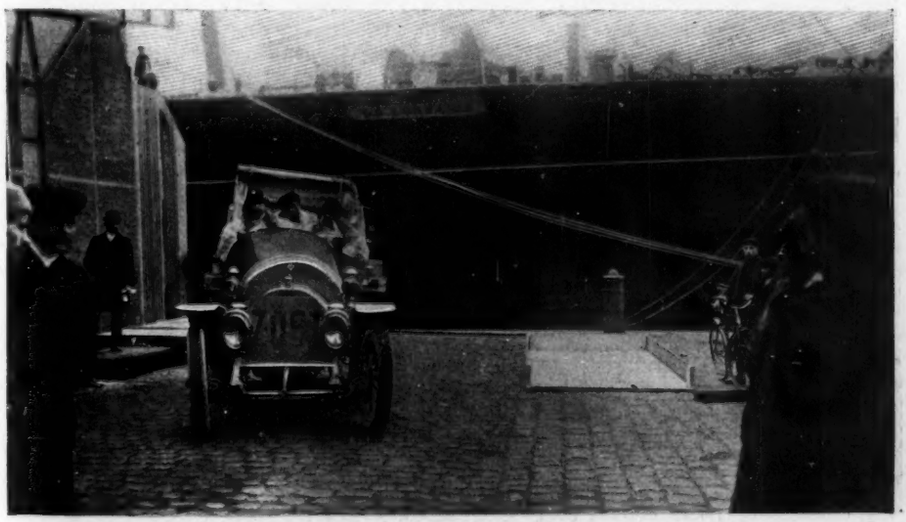
Antonio Scarfouglio, who drives the Italian Zust, is an amateur driver, the son of the proprietor of a Naples newspaper, who entered because of sporting spirit and love of adventure, but he has had wide experience in handling motor cars. He is accompanied by two expert Italian chauffeurs, Sirtori and Heaga.

Lieutenant Hans Koeppen, who is on the German car Protos, is of the general staff of the German army, not a motorist but a sportsman with a love for adventure. His companion, Hans Knape, is an officer of the German engineer corps and has had considerable experience in motor racing. Both Koeppen and Knape had to get the permission of Emperor William to enter the race. Lieutenant Koeppen will be in charge, Knape will drive and with them will ride Ernest Maas, an expert German mechanic.

Montague Roberts, driver of the Thomas Forty, the only American car in the race, is widely known as a racing chauffeur. He drove the Thomas car in the last Vanderbilt cup race and last summer won the 24-hour race at Brighton Beach. He is employed by Harry S. Houpt, the New York agent for Thomas cars. His will be the only stock car in the contest, the others being specially built for the contest.

Construction of the Cars

Though each contestant believes his own special type of stock chassis is the most suitable for the round-the-world trip—and in not one single case has a special machine been built—ideas are varied as to the best type of equipment for a journey through Arctic regions never before invaded by a motor car. The de Dion certainly stands out as the one most carefully prepared and equipped for the task it has set out to accomplish. An ordinary 30-horsepower four-cylinder chassis has been selected, and although having few external points of resemblance with the factory's ordinary product, is, as a matter of fact, unchanged in any mechanical feature. The machine used, indeed, is one of those which took part in the Coupe de la Presse tour and race last August, one of the essential conditions of which was conformity with stock standards. The frame has been filled with soft wood, wrapped in felt, and finally covered with rubber. Axles, springs, steering column, and in fact every exposed metal part subject to strains has been treated in this way, Captain Hansen declaring such protection essential to preserve the steel from the effects of extreme cold. The only change on the engine is the raising of the exhaust manifold with a



Zust Car at Dock at Havre, France

PARIS CROWDS BLOCK STREETS AS CARS GO BY

view to keeping the temperature under the bonnet a little higher than usual. A pan the full length of the chassis protects the underworks, but makes the road clearance rather small for a journey over virgin country. Seven independent gasoline tanks, with a total capacity of 154 gallons are carried immediately above the frame from the driver's seat rearward. All are stoutly encased, separated by partitions, and connected up separately to the carbureter, so should one become disabled only a small amount of precious fuel would be lost. Above the layer of tanks is what at first appears to be a square delivery body; on climbing up on the running board it is seen a circular well has been left of just sufficient size to allow of the accommodation of spare tires, the center being the seat for the third man. In the chests built round the well are spare parts, tools, clothing, a Nansen kitchen, sufficient food for 1 month, and the thousand and one things necessary for an Arctic exploration.

To prevent the water freezing a special preparation has been supplied to all the contestants, the nature of which has not been made public. If all works out in practice as in the laboratory tests, everything will be well; if not each driver will have to rely upon his own ingenuity. The Standard Oil Co. is supplying to all contestants a special brand of lubricating oil guaranteed not to freeze under the most rigorous climate. De Dion, however, being an oil refiner, uses his own. Steel-studded Michelin tires and Vinet dismountable rims are being used. On frozen snow or ice the rims will be dismounted and steel ones with sharp spikes will be substituted; where railroad tracks run through the country to be traversed, steel flange rims will be fitted and the car run like a locomotive.

Compass, sextant, charts and roll maps occupy convenient positions in front of the driver. A portable dynamo will be fixed up in such a position to be worked by one of the passengers during the journey and being connected with storage batteries will lay up a supply of electricity for night traveling. It is believed that a hand-operated dynamo, with suitable gearing, is preferable to one driven by the motor, for it will relieve the engine of a little work and serve to keep the operator warm. For the same reason the small but powerful windlass is worked by hand. Protection for the drivers is afforded by a stout leather apron, a light canvas wind shield with celluloid front, and a light folding hood covering the entire body.

Montague Roberts, America's only representative in the 20,000-mile trip, has a standard 60-horsepower Thomas Flyer built at the Buffalo factory and fitted out under his supervision. Externally there are fewer departures from standard equipment than on any of the machines taking part in the tour, the car being the usual Thomas runabout with such necessary equipment as conditions suggest. Ordinary 36-inch wheels and tires will be used on the early part of the journey; later these will be changed for 40-inch wheels with solid tires, so designed that should the rubber wear out the machine can run on the steel rims. Spare tires are carried behind the rumble seat. Running the full length of the car, and each side of the vehicle, is a long wooden support to which parts of the equipment are attached, and which will serve to work over rough road. Ninety gallons of gasoline are carried in the ordinary tank, and 60 gallons in the reserve tank. A winch is fitted to the front of the car and connected to the engine by coupling gear. Provision has been made for warming the driver by means of the exhaust gases, and protection will be afforded the men by a wind shield and a buggy hood.

Godard, who has been aptly termed the dare-devil of the party, declares he put all the official instructions on how to prepare for the run into a bag as soon as they were received and has not opened the bag yet. The enthusiastic, irrepressible Frenchman made the run from Pekin to Paris and believes he there learned enough to know how to fit his Motobloc for the New York-Paris expedition. A standard 24-30-horsepower chassis has been taken, fitted with a four-seated runabout body, and furnished with a large chest in the rear of such dimensions and arranged in such a way that everything required for the trip can be found when wanted. The standard

ROUTE BETWEEN ROCHESTER AND BUFFALO—GEARLESS CARS BREAK PATH

GEARLESS CAR ON SNOW-BOUND ROADS ON COURSE NEAR BUFFALO

gasoline tank at the rear of the chassis is retained, but it is admitted it is doomed to be sacrificed, probably before America has been left, and reserve tanks have been fitted with a capacity of more than 70 gallons. Tires used are a patent cushion type with multiple inter-connecting air chambers. Spacious boxes on the running boards contain tools, and such articles as are likely to be needed frequently on the run. The drivers are protected by a folding hood and a leather wind shield.

A 20,000-mile run with no other power than that furnished by a tiny single-cylinder engine of 4½-inch bore, appears the height of temerity; Paul Pons, the driver of the French Sizaire-Naudin, declares there is nothing extraordinary in it. When asked if his power is not too small, he smiles and replies in the vernacular—for though a globe-trotter he has not learned to converse in any other than his own language—"Not a bit of it; if I have little power I have little weight; some of the other fellows have 3 or 4 tons to move over the country. In comparison I have nothing. I have a spare seat on the car, and if you know of any American who would like to make the trip, I shall be glad to take him along." Pons, who is a light-weight himself, has had experience with light-weight machines, being the driver who set out from Pekin on a tricycle last year with the intention of reaching Paris. His gasoline supply became exhausted, and his tricar is still rotting on the Gobi desert. A standard 15-horsepower machine has been selected, fitted with larger wheels, had the frame filled with soft wood and supplied with extra gasoline tanks capable of holding 33 gallons. As with all the French contestants using pneumatics, Michelin tires are employed.

Italy has a powerful-looking representative in the Zust, said to house but 28-30-horsepower under its green, white and blue bonnet. A standard chain-driven model has been selected for the trip, unchanged in any mechanical feature. The frame has been filled with soft wood, the springs are wrapped with cord, but no other protection has been given to the chassis. Built up from the dash is a metal and canvas shield completely protecting the driver; as the sides are built round in the same way, the two men in the front seat operate in an almost entirely enclosed vehicle. Behind the two rear seats a series of metal chests have been built up, the lower ones containing gasoline tanks with a capacity of 100 gallons, the upper ones holding tools, equipment and food. There is room for three passengers on the seat behind the driver, but only one man will occupy it, the remaining space being occupied by tires and stores. Pirelli pneumatic tires have been selected.

Though an outsider, M. Lelouvier and his Werner car have to be reckoned with on the tour, any man willing to start on an expedition of this nature alone and unaided possessing more than ordinary qualities of assurance and determination. The machine selected is a composite, consisting of a 15-horsepower de Dion engine and a Lacoste & Battmann chassis.

Sixteen days is the record time in which the Berlin factory built the four-cylinder 40-horsepower Protos car. Weighing 6,000-pounds, 196 inches in length, and 80 inches wide, it is one of the largest and most powerful-looking vehicles on the run. The extra width has been given to allow the the canvas hood is up it has much the appearance of an army wagon. The gasoline supply of 176 gallons is contained in six separate tanks.

Deep Snow Near Rochester

Rochester, N. Y., Feb. 10—The New York-Paris racers will find anything but good going through here, for today the snow is 24 inches deep on the level and the roads are badly drifted. The roads, it is true, have been somewhat broken, but only by sleighs, which are considerably narrower in gauge than wagon ruts. The result is when a car can be driven in one the wheel on the opposite side sinks to the bottom of the unbroken snow and makes traveling almost impossible. Owing to the severe storms and the unusual high winds, the drifts are anywhere from 3 to 5 feet deep and the contestants of the trip may as well provide themselves with numerous snow shovels of large capacity, for a good portion of the time will be spent in shoveling out the cars, say the makers of the Gearless cars in this city.

PARADE OF CONTESTANTS IN PARIS BEFORE SAILING

WINTER HAS NO TERRORS FOR MOTORISTS

THOMAS FLYER IN SNOW BATTLE FROM BUFFALO TO BOSTON IN A DEMONSTRATION OF POSSIBILITIES OF WINTER MOTORING

CHICAGO, Feb. 9—More conclusively than ever, the motor car is proving its utility as an all-the-year-round vehicle. No longer is the practice general of storing the car from December to April and particularly in the large cities is the use of the motor car during the cold spell most noticeable. The boulevards are alive still with motor traffic, the big cars equipped with limousine bodies and the little fellows mincing along, glass front and top defying old Boreas and his ally, Jack Frost. Throughout the country the adventurous ones hike and the press is filled with accounts of the different stunts. The New York-Paris race, which starts Wednesday, is only an example of the daring of the motorists, who do not fear the snow, mud or cold. In addition there are the Oldsmobile expedition from New York to New Orleans, and the adventurous trip of the Thomas party from Buffalo to Boston, while in warmer climes, although over roads described in that apt term "fierce," the Cleveland pathfinding expedition blazed the way for the Jacksonville-Miami run in March.

As showing the indifference of the motorists to the rigors of winter is the signboard expedition which went out of Chicago yesterday to peg the South Bend route for the Chicago Motor Club, which is most anxious to get its campaign well under way. It was the second trip of the committee, which only got as far as Michigan City 2 week ago. This time the party was made up of J. V. Lawrence, William H. Mason, Oliver Temme, Berne Nadall and Harold Vorce and a Pierce-Arrow six was the car used. Leaving Chicago at 6:30 o'clock in the morning, the signboarders soon found this sort of winter traveling far from easy. Once in Indiana the roads were found clogged with snow—not a fleecy covering of the ground, but huge drifts through which even walking was difficult. The north and south roads were found to be weather-bound, while it was not so bad on the east and west thoroughfares. Fighting the snow, the Chicagoans got just the other side of Otis before they were compelled to quit. There the snow was higher than the fences, and it took them 4 hours to make 3½ miles. Snow shovels were needed often to extricate the car from the drifts, and on two occasions it was necessary to requisition horses to plow through the snow. At one place the horses towed the car a mile and a half, and it was a common trick for the horses, aided by the motor, to break huge logging chains.

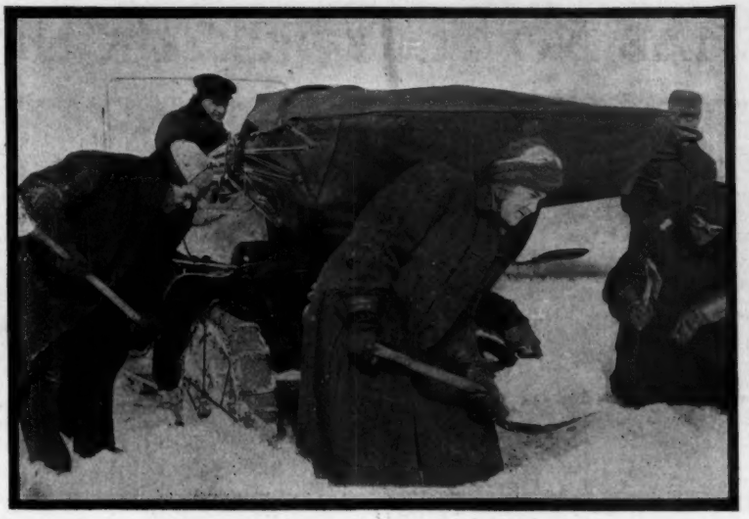
One place near Burdick it required 3 hours 15 minutes to go a mile, and eleven times the car was ditched in the snow battles. The turn for home was made 70 miles from Chicago and it was 1:30 o'clock this morning before the signboarders, tired, wet and disgusted, returned to Chicago, only to find nearly every garage closed, requiring an hour's search to find a place in which the car could be stored the rest of the night. Chairman Lawrence predicts the New York-Parisers will be a week behind their schedule from New York to Chicago.

From Buffalo to the Hub

Boston, Mass., Feb. 8—Clad like the men who composed the famous rescue party that went to the Arctic regions to pick up the survivors of the Jeanette polar expedition, three men in a big Thomas Flyer landed here this afternoon at 3 o'clock, and when they got in they were glad to seek the hospitable showrooms of the Whitten-Gilmore company, the local agent for the Thomas. The trio composed George Schuster, F. J. Clark and A. H. Dorsey, the former the driver and the two latter connected with the sales and advertising departments of the factory. More than a week ago they left Buffalo on a trip to the east, and since that time they have been beating out paths through snow or slipping along over stretches of ice. They went to Syra-

WINTER MOTORING IN WINNIPEG IN A FRANKLIN

cuse, Utica and Albany in New York state, then across the Massachusetts line through Pittsfield and Springfield, back through Connecticut to New York. From there they shaped a course east again and landed at the Providence show. Today they left the latter place and reached Boston. The mercury was hovering near zero, and there was a wicked westerly wind that cut like the lash of a whip, making it tough going; but the men and the car stood it in fine shape. After a few days hereabouts as guests of Messrs. Whitten and Gilmore they will depart for Buffalo. George Schuster, the driver of the car, is the same man who drove the famous 13 through the Glidden tour last summer without a mark being chalked up against him. Winter tours seems to be a specialty at which Thomas cars are especially good, for just a year ago one of these big cars made the circuit of the White mountains through a lot of snow and over icy roads that had been closed for weeks, and got back here again in less than 24 hours.



CHICAGO SIGN BOARD COMMITTEE'S SNOW FIGHT

Snow Tests for Ramblers

Kenosha, Wis., Feb. 9—Heavy snowstorms, which have repeatedly crippled all transportation and public service facilities in the towns along the shore of Lake Michigan in southeastern Wisconsin within the past month, have afforded Thomas B. Jeffery & Co. an excellent opportunity to demonstrate the new 1908 Rambler models under the most trying road conditions. This has been done for the benefit of all prospective buyers and Rambler representatives who are constantly visiting the Kenosha factory. After the blizzard of hail, sleet and snow which swept over Kenosha for 48 hours on January 11 and 12, streets were blocked by drifts, in some places 3 feet deep; street cars could not run and all communication with the outside world was temporarily cut off. The 1908 Rambler demonstrators were the first vehicles to plow through the drifts and to provide transportation for the employes of Thomas B. Jeffery & Co., who live in all parts of the city. Several of the cars were busily engaged in bucking the snow drifts in the morning after the first blizzard and at noon these were used in carrying the members of the general office staff of the Rambler factory to and from their homes. Later demonstrations were given for the benefit of several guests of the company who happened to be at the factory. In spite of the storm the demonstrations were carried on without interruption. The adaptability of the car to all possible road difficulties, which was to be determined, could not have been proven under more severe conditions. Several trips were made about the city and through the parks, mostly over roads which would be considered impassable. Hardly had this blizzard passed when a heavy rainstorm struck southeastern Wisconsin. This time rain fell for 24 hours. The streets were soon running water and a heavy frost which followed left Kenosha ice-bound.

Winter Motoring in Canada

Winnipeg, Can., Feb. 7—Joseph Maw, representative of the H. H. Franklin Mfg. Co. in Winnipeg, with a number of friends, recently drove to Balmoral, a distance of 30 miles, and return. The run there was made in 1 hour 20 minutes, and the run back in 1 hour 16 minutes. This was followed a week later by a trip to Selkirk, 24 miles north, and from there to the north end of St. Peter's Indian Reservation, 35 miles. Later a party drove to Pigeon Lake, 25 miles west of Winnipeg.

SNOW DEMONSTRATIONS ARE BEING GIVEN RAMBLER PROSPECTIVES AT KENOSHA DESPITE ADVERSE WEATHER CONDITIONS

MODERN MOTOR PALACES

NEW TERMINAL GARAGE IN CHICAGO, DESIGNED TO BE A MODEL OF ITS KIND

IN ONLY one respect is Chicago a bit behind its powerful rivals in the east. That one point is in its garages, which fail, as a general rule, to come up to those in New York and Philadelphia so far as size and luxuriousness is concerned. However, the signs of the time point to an effort on the part of the Windy City to catch up to those setting the pace in this regard and one of the evidences of it is the new Terminal garage just completed and opened to the public. It is located at 1833-35 Evanston avenue, near the Wilson avenue L station, in one of the finest residence districts of the city. Theodore Nagel and L. H. Collins are responsible for its erection and Mr. Collins is the manager of the place. In every way possible they have endeavored to make this garage a model of its kind. Mr. Collins has owned many cars in his time and in consequence he considers himself well qualified to build a model garage. Having the property on his hands and garage building being a sort of a hobby with him, he interested Mr. Nagel in the proposition and the two together spared neither time nor money in building the Terminal, the idea being to have everything as near ideal as possible. How well they have succeeded a visit to the place on the north side shows.

In appearance the Terminal garage is a tasty-looking structure, with a row of stores along the front, and a second story arising in the center of the row. There is no ginger-bread effect on the outside, but the interior shows how well qualified Mr. Collins was to lay it out. In all from 100 to 150 cars can be accommodated, the floor space available running up to 16,500 square feet. There are three storage rooms each 80 by 80 feet and an office 16 by 20 feet. Then there is an exhibition room 20 by 22 wherein the owners intend to handle some well-known make of car. In addition to this there is a woman's waiting room from which men are barred and which is in charge of a female attendant. The chauffeurs have a club room with plenty of reading matter.

Entering the building there is the office on one side and the show room on the other. The three storage rooms are on the first floor and there are two wash racks. In the back there is an electric elevator which runs to the second floor where there is a machine shop 50 by 100 feet, equipped with special machinery so that making a motor is no extraordinary task. In one corner is the chauffeur's headquarters, in another a well-equipped stock room and in a third corner the tool cabinet. A feature about the electric elevator is that there are automatic fire doors fitted, while the same device cuts off the different storage rooms. The plant is heated by hot water, while the Bowser gasoline and oil tank system is employed. Also there is a portable Bowser tank. The garage makes a point to cater to the electric trade, there being a special twenty-point Western Electric switchboard for charging electric cars and batteries. This, Mr. Collins declares, is the finest charging plant to be found west of New York city.

Great care has been taken to fit up the building in a neat and tasty manner, the fittings in the office and show rooms being of weathered and funeral oak, with brass trimmings. The electric lighting system employed makes the entire plant as light as day at any time Mr. Collins turns on the various switches.

OFFICE OF THE TERMINAL GARAGE IN CHICAGO

Philadelphia's Newest Garage

Philadelphia's latest combines a garage and a sales establishment and when the Keystone Motor Car Co., agent for Packard and Buick, formally opened its commodious new building at 216-18-20 North Broad street with a reception given to about 1,000 invited guests, the building was a revelation to the visitors, who for the first time enjoyed the opportunity of inspecting it. Open house was kept for the general public throughout the week all day and evening. Throughout the reception days there were ushers on hand to show visitors through the building from basement to roof, and all who made the inspection were enthusiastic over their visit. Perhaps the feature that most impressed the observer was the commodious appearance of every portion of the building. From the show room on the first floor, Broad street front, to the machine and repair shop on the fourth floor, there is every evidence of a judicious distribution of space to the essential needs of an ideal motor car establishment. The ceilings are high; the floor spaces are clear of every obstable that might obstruct the view, and there is not a corner that is not flooded with light. There were about seventy-five machines stored on the first and third floors, and there was not the slightest suggestion of crowding. There was even plenty of room for more, and there is sufficient space in which to turn a machine around without danger of being damaged by colliding with other cars.

Entering the Broad street front show room the visitor is impressed with the spaciousness of the room—it is like the entresol to a big hotel.

UNIQUE CONSTRUCTION OF FORD BRANCH STORE IN SEATTLE

The cement floor is covered with Persian rugs strewn about artistically. On the right, as the visitor enters, are seen displayed in full view of Broad street, through mammoth plate - glass windows, a half dozen or so of 1908 Packards and Buicks, gleaming in their freshness of paint and burnished metal. On the left is a room of desks for the sales force, each desk being a dignified piece of mission furniture. In the rear of these desks is a showcase for accessories. Here are displayed samples of every need in that line, and communicating with the counter is a dumb waiter running to the fourth floor store room, where there is a bin full of each sample article shown below. It is the work of only 30 seconds to ask and receive one's wants through this system. On the opposite side of the show room is a telephone exchange reaching every portion of the building. From this corner of the show room rises a spacious stairway to the mezzanine floor, with a balcony overlooking the show room. In the rear of the show room there are double sliding doors big enough to admit any car from the big garage room in the back. This latter room is entered by the way of a 40-foot wide thoroughfare in the rear, Carlisle street, this being the only entrance for machines. There is no car entrance from Broad street.

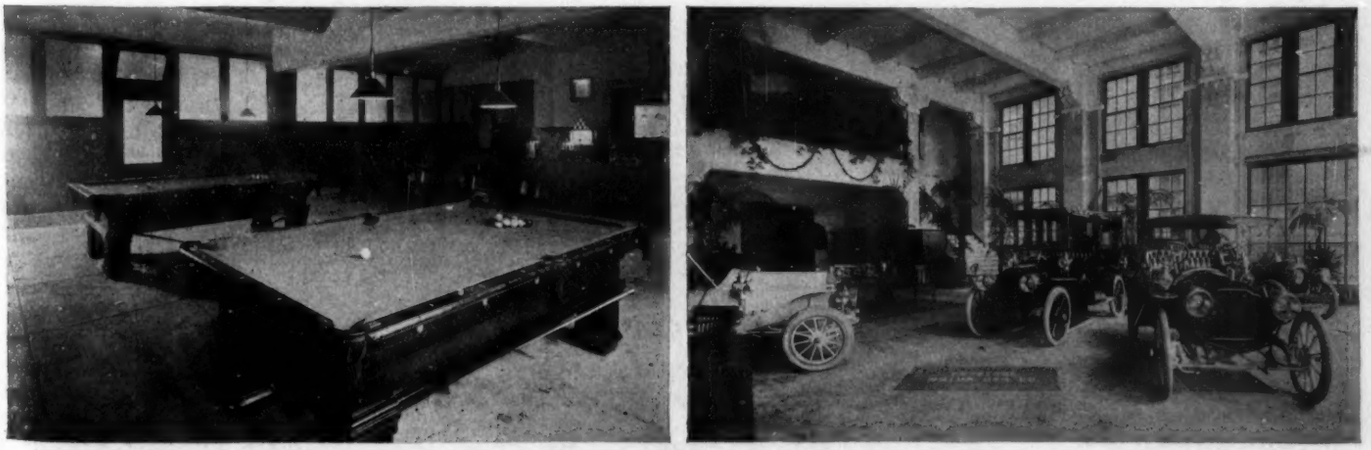
On the mezzanine, or second floor, are the general offices, and separate private offices for the president of the company, Edward H. Godshalk, and the general manager, Clarence Godshalk. Their offices are furnished in mission style and with rugs, and are brilliantly lighted by overhanging chandeliers with clusters of frosted bulb globes. Across the corridor are the general offices for the clerical force—tastefully furnished also in the mission style—and well lighted in all the corners by sunlight and incandescents.

Nearby is an invitingly furnished women's reception room, with a couch and chairs; there is also a retiring room adjoining. The back portion of this floor is given over to the chauffeurs' uses—there being steel lockers for about 100 men and several shower baths. There is also a smoking room for the chauffeurs, provided with two billiard tables, chairs and a lunch counter, where light lunch and cigars can be obtained by the drivers.

The gallery in this rear portion overlooks the garage room on the floor below. The third floor is a single room—using the full 53 feet of width of the building and its depth of 200 feet—without a pillar to block of view from front to back. This room is now well stocked with cars. The top floor is an admirably equipped repair shop and stock room, with an ideal classified stock storage system, carefully arranged in conjunction with the catalogue. From the basement to the top floor runs an elevator of sufficient dimensions to hold any car, and on the third and fourth floors, adjacent to the elevator, are steel turntables, a new idea for motor car buildings. This latest addition to the Quaker City motor colony may be taken as an indication that the dealers of the City of Brotherly Love are not to be outdone by their rivals in Gotham. Getting a line on the results obtained by the New Yorkers through the lavish use of money in providing suitable quarters for the display and sale of motor cars, and incidentally the storing of these vehicles, the Quakers are coming to the front in a manner which leads one to believe it will not be long before the Philadelphians need not be ashamed to compare their motor palaces with those that have made Manhattan famous in the motor world. This new Keystone palace will be only an opening wedge which eventually will place Philadelphia in a position of great prominence in the industry—from the standpoint of the retailer at least.

Ford Branch's Peculiar Architecture

It is a far cry from the motor palaces of the east to the structures utilized by the trade on the Pacific coast, where the idea seems to be utility rather than magnificence. An illustration of this is had in the case of the new Ford branch recently installed at 532-6 North Nineteenth street, Seattle, Wash. The Ford company formerly was represented in that section by an agency, but it was recognized there was a good field for a branch house out there, so just before the Chicago show R. P. Rice, assistant manager of the Chicago Ford branch, was delegated to move his lares and penates to Seattle and there establish a Ford branch. After carefully looking over the field he selected an establishment which was built for a motor car store. While its architectural features may not be as grand as those of the eastern houses, yet Manager Rice declares it is in keeping with the other buildings out that way.

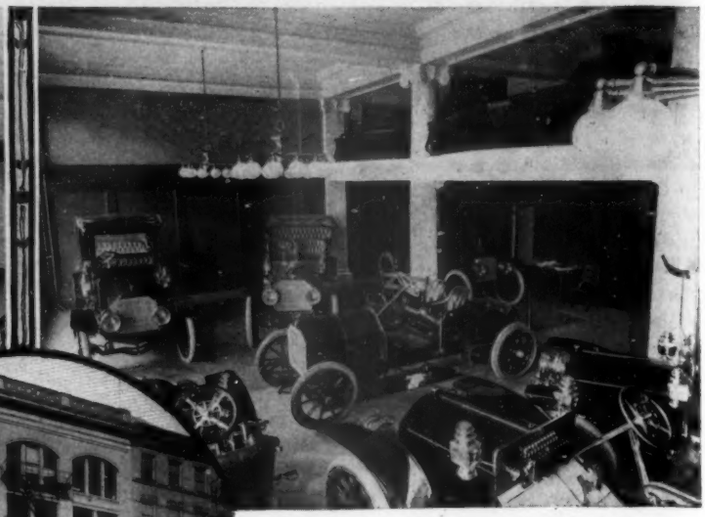


CHAUFFEURS' CLUB ROOM AND SALESROOM OF KEYSTONE MOTOR CO. OF PHILADELPHIA

NEW P & S BUILDING A MODEL OF ITS KIND

EXECUTIVE OFFICES ON THE SECOND FLOOR

SEVENTH AVENUE SIDE OF BUILDING



GENERAL VIEW OF MAIN SALESROOM

NEW YORK, Feb. 9—The Palmer & Singer building at 1620-22-24 Broadway, compares favorably in size and finish with any of the giant office buildings in New York city, it running through from Broadway to Seventh avenue and occupying a frontage on both streets which surpasses most of the large buildings on upper Broadway. It cost a fortune to build and another fortune to equip. It is said to be the most thoroughly equipped building of its kind in this country. It is built of solid reinforced concrete and is absolutely fireproof. It was opened only recently.

In the cellar is a gasoline vault, 6 feet underground, equipped with six Bowser tanks, walled off from the rest of the building. In another section of the cellar are the boiler and motor rooms, also walled off, the latter furnishing power for the elevators, etc. Another feature is a series of oil tanks with overhead cranes to facilitate handling barrels of oils of different grades. A large water pump in another section of the room is for the purpose of furnishing water to the tank on the roof, and pumping a high pressure to fire hose on each floor. In the cellar are also three pits in which cars may be taken down when desirable to make slight repairs, which would not necessitate their being sent up to the machine shop above. A turntable and washstand for cars complete the equipment of this room, to which access is gained by means of the two large elevators which run to the top floor of the big motor car building and which have a carrying capacity of 6 tons each.

Large doors, leading from Broadway, give access direct into the salesroom, in which seven cars are at present displayed, with room for more. The permanent display of cars on this floor will comprise the Simplex cars, Palmer & Singer line and the Selden. The desks of the members of the sales force are conveniently situated at the back of the room. To the right is the washroom and to the left a woman's retiring room, beautifully furnished in white enamel and equipped with every toilet accessory. Behind the salesroom, reached by three large doors, is the ground floor garage for cars that are running in and out all the time. It has a wide entrance on Seventh avenue, and will be the thoroughfare by which cars enter and leave the building. On this floor are gasoline vaults containing gasoline pumps, which pump the gasoline from the tank in the basement into little carriages which are taken on the elevators to the various floors, as needed, and their contents there transferred to various cars. The superintendent of the garage has his office on this floor, and is thus able to exercise constant supervision over all the incoming and outgoing cars. Turntables and washroom for cars on this floor further add to the conveniences of the department.

Returning to the salesroom from the garage, one may ascend winding stairs on either side to the mezzanine floors, where the switchboard, telephone operator, bookkeeper, cashier and auditor have their respective offices, together with several stenographers and detail men. Behind this floor is a large fireproof vault containing files, books, safe, stationery, office accessories, etc. A door from the mezzanine floor gives access into the garage behind the salesroom, opening on the gallery, which runs the whole length of the block, on both sides, from Broadway to Seventh avenue and across one end. On this gallery are 150 lockers for chauffeurs and customers who have cars stored in the garage. These lockers contain coats, robes, tires, lamps, etc., and anything which may not be in immediate use in the cars. At the Seventh avenue end is a platform where checkers sit constantly, day and night, noting incoming and outgoing cars and recording them in a time clock. Going upstairs from the garage floor, from the salesroom end, one comes to the private office extending clear across the entire front of the building on the Broadway side. This

HUGE ELEVATORS WHICH CARRY MOTOR CARS

office may be used as a show room, also, as it has room for two motor cars, in case of emergency, one car being displayed there at present. Here the officers of the company and their secretaries have their desks, and the larger transactions of the concern are enacted. Behind the salesroom is another garage floor, easily accessible by the two big elevators.

In the Seventh avenue end of this floor is the chauffeurs' club room, equipped with a barber shop, two pool tables, shower baths, music room containing a piano, and a card room amply supplies with tables. There is also a bar where soft drinks are served. The third floor is devoted entirely to storage, with a capacity of more than sixty cars. This room, like all the others, is supplied with turntables and wash stands for the cars, but most of the washing of the cars will be done on this floor so that the other garage floors must of necessity remain absolutely dry. The fourth floor has an enormous capacity, covering the whole ground site of the building between Broadway and Seventh avenue. This will be devoted entirely to the storage of cars and is equipped with all the conveniences of the other garage floors.

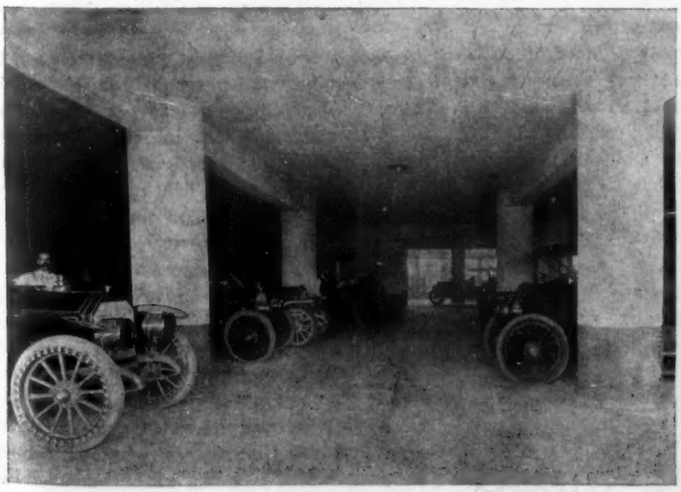
Prominent among the features of the fifth floor is a drafting room, where draughtsmen will be constantly at work on all sorts of experimental features which the Palmer & Singer company will try out.

On this floor also is the stock room, which will carry a complete stock of all parts for general repairs. A large and well-equipped tool room is maintained in connection with this. The machine shop takes up the most of this enormous floor. Its capacity is such that twenty cars may be undergoing repairs at the same time. It has a full assortment of lathes, speed drills, drill presses, milling machines, planers, grinders, buffers, a forge, a portable crane with which to take out motors, transmissions, etc., and four pits. These pits are each about 4 feet wide, 4 feet deep and 10 feet long, and are for the purpose of facilitating the repairing of cars.

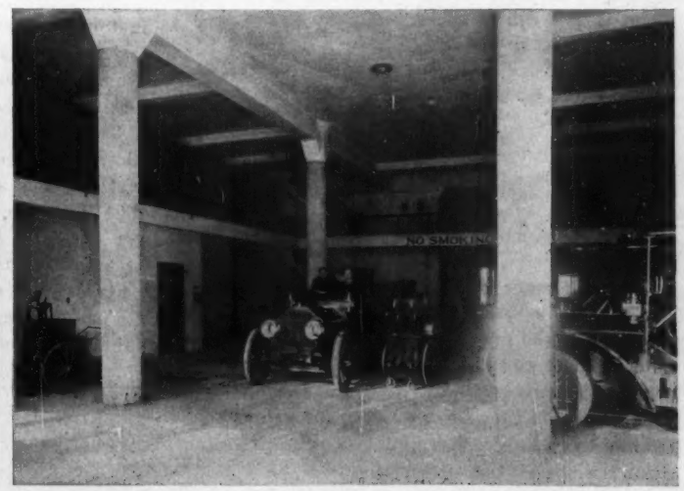
WHERE THE CHAUFFEURS CAN TAKE IT EASY

A. L. A. M. CUTTING EXPENSES

New York, Feb. 9—An interesting group of manufacturers was in New York last week to attend the monthly meeting of the A. L. A. M. and the N. A. A. M. The net result of them was that the process of reducing the expenses of the licensed association was continued by the passing over of the traffic department to the N. A. A. M.—that is, the N. A. A. M. voted to establish a traffic department and engage J. S. Marvin, who has proven so capable as manager of the A. L. A. M. The A. L. A. M. administrative costs will be further reduced by H. T. Clinton taking charge of the agency work formerly done by C. A. Wardle and Manager Budlong getting along without the services of Assistant Manager Brock, who has resigned. The Chicago show date was officially fixed at the N. A. A. M. meeting for a fortnight after the New York show, which is to be held the third week in January. The records and statistics for 1907 which have just been completed by the licensed association show to what extent the industry has grown the last year or two. During the fiscal year of January 1, 1907-January 1, 1908, there were 47,302 pleasure gasoline cars manufactured in this country. The aggregate value is $96,169,572. During this same period there were 5,000 steam and electric pleasure vehicles built and sold in this country with a total value of $7,500,000, this giving a total of 52,302 pleasure cars sold in the past 12 months, with a total value of $105,669,572. The percentage of increase each year has been consistent as shown from statistics gathered in 1904, which show the value of the total output $26,645,064 as against $105,669,572 for the present year. Based upon accurate knowledge of the number of employes and the production of a large number of motor car factories, it is estimated the total number of employes directly employed in the motor car factories is 58,000, and the capital employed $94,200,000. As in many other manufacturing products, there is an indirect investment which is closely allied to vehicle manufacture. This includes such products as tires, rims, lamps, speedometers, drop forgings, etc. Close estimation shows there are 29,000 employed in the allied industries, with total capital employed of $36,700,000. Unlike many other manufactured products the sales end of the motor industry is exceedingly expensive. At the close of the year 1907 there were 2,151 sales and garage establishments employing 21,500 people, with a capital of $57,500,000 employed to do this business. Not including the manufacture of motor cycles or the sale of supplies and accessories, the total estimation is: Value of product sold, $105,669,572; total capital employed, $171,448,769; number of employes involved, 108,500.



SEVENTH AVENUE ENTRANCE TO P. AND S. BUILDING



CARS ON THIRD FLOOR OF MOTOR PALACE

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MOTOR AGE

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BUNK, THEN MORE BUNK

WHETHER Thomas A. Edison has forgotten or whether he ever knew what Abraham Lincoln said about fooling the people, he keeps on fooling some of the people all of the time—that is an Edison habit, acquired in recent years. There was a time when Mr. Edison did not have to fool the people at any time; there was a time when he made good when he said anything—and when he knew he could not make good he said nothing.

Mr. Edison has a laboratory somewhere down in New Jersey—a bunk laboratory—and since the motor car came into prominence he has kept it working overtime, particularly about this season of the year, when people are beginning to think of buying cars.

The tale of his wonderful storage battery has appeared each spring for the past quarter of a dozen years; the tale appears regularly and leaves the wonderful battery at the post and keeps hordes of people from obtaining the enjoyment they might have did they not place so much confidence in the wizard of Menlo park.

The dangerous electric motor car going 100 miles without recharge, at 20 miles an hour, if you like, is an accomplished fact.

Bunk!

A strange coincidence. Even as I achieve the highest ambition of my life, that to help the downtrodden brother, I tread with heavy step on the corns of the richest man in the world.

More bunk! Yet Mr. Edison smiled broadly.

Unless Rockefeller goes in heavily for coal—I mean, buys up coal mines right and left—he will lose a great part of his enormous income, for the days of the benzine buggy are numbered. Before I leave for the south with my family, in a few weeks, my new electric storage battery, which I rounded up this afternoon, will be ready for trial, and there is no doubt that it will be a complete success.

Still more of it!

Here's another shot that ought to make the builders of benzine buggies sit up and take notice—of the bunk. But there is more of it:

By the time I come back the factories will have turned out a hundred of them, suitable for racing, ordinary carriage use and trucking. Then good-by benzine—good-by to high priced chauffeurs.

There is more than a probability that some people will believe what Mr. Edison says; don't the great daily papers swallow it, hook, bait and line? Isn't it a fact that people will wait until Mr. Edison has made good—haven't they been waiting for years for him to make good on his battery proposition?

As to the new electric storage battery, just completed, it will supply the largest touring car with power for a 100-mile trip on a single charge. If the proprietor is a space eater he can make 20 miles an hour if he likes.

Twenty miles an hour space eating!

Will motorists favor the new power? Of course they will, because it is cheaper and it eliminates danger to a large extent. No more bucking motors, no spark coils getting out of adjustment, no disordered carbureter in future.

This was Mr. Edison's last piece of bunk—it was a parting shot for Rockefeller and all the makers of benzine buggies and all the makers of those common storage batteries.

But Mr. Edison did not tell the public through the gullible daily that an electric car has been known to travel much farther than a hundred miles—yes, nearly twice that distance—on a single charge. There were some other things Mr. Edison did not tell, some things it would not do to tell. It isn't advisable to tell all you know all at once if you want to keep on stringing the public—it is against good business policy. Mr. Edison's bunk has come to be somewhat of a joke—a real joke.

MOTORISTS NOT SUBMISSIVE

CHICAGO'S gang of municipal tax leviers and tax eaters is not to have its own way; it is not to be permitted to play hide and seek with motorists simply because it is fashionable to hand the latter something when other victims are not present. The common council of the city needs money; it always did need money; it always will need money. Aldermen need money; they always did and they always will need it. The authorities of Chicago came to the conclusion that so long as the motorists of the city submit to injustices, as they have in the past, they would hand them a little more in the form of a wheel tax. Of course, that it might not appear as class legislation, all vehicles were included. Now the city has a pack of motorists and another pack of other vehicle owners on its back, and before the day for enforcing this wheel tax arrives its back will be badly lacerated from the clawing it will have received. Chicagoans are doing something that other motorists should have done long ago, and the hope is they will keep up their fighting attitude until the supreme court of the state has settled for all times what are and what are not motorists' rights and what are and what are not their privileges.

WINTER MOTOR TESTS

DRIVING a motor car under such conditions as have existed for the greater portion of this winter, through heavy banks of snow and when the weather is such as to suggest close acquaintance with the fireside, has been followed by some of the more ardent motorists with as much enthusiasm as could be mustered by others in mid-summer, when conditions of roads and weather and scenery are ideal. It has become popular to keep a car going all winter, whether in city or country, and with the modern means of road locomotion this has become no great task—no such difficulty as was encountered a few years ago entering into the matter.

Stories of winter motoring have been told from week to week by Motor Age—they were simply stories, but they told volumes for the reliability and the power of the modern car, until now nobody asks whether a car is capable of plowing through deep mud or high banks of snow.

The great test of the season—the greatest in the history of the industry, not excepting the Pekin-Paris contest—is the one that began at New York yesterday morning, and will, it is believed, end some time within the present year in Paris, after two great continents and thousands of miles of no roads have been traversed and great hardships endured.

At first thought the contest beginning at New York and to end in Paris seems one filled with hopelessness and one without sufficient grounds for existing. Those who have in mind the great future for the self-propelled road carriage realize that while the people of all lands have heard of these instruments of travel and have marveled at their capabilities, they have not been so thoroughly convinced as to their utility in all directions as to permit the campaign of education to rest. Ordinary contests have become entirely too mild to show the world of what a motor car is capable; the most strenuous seems to be needed to give a hint as to what may be expected of it in the commercial field some time in the near future.

The New York-Paris event is not for the purpose of opening a market in Alaska or eastern Siberia—it is to put the cars through such a severe test as to leave not the slightest doubt in the minds of the public that under the most exacting conditions the modern road vehicle will surpass anything else that moves, whether it is a railroad train, a team of horses or anything else, animate or inanimate.

ENGLAND does not propose to permit either France or Italy to run away with the grand prix without knowing they have been in a contest of the most severe nature. Germany, too, will this year have a hand in the racing game, for the Mercedes concern alone is building not fewer than ten racing cars and intends going after some of its lost glory. The dates for the grand prix have been set for Tuesday and Wednesday, July 7 and 8, the big race to be held on Wednesday and the contest for light cars on Tuesday. England is hot after the big event, while France is not apt to be so well represented as in former years because of the trade situation. France cannot permit England to win the grand prix; such a result would mean more loss to French prestige than would the loss of thousands of dollars.

SOMETHING that ought to appeal to the buying public is the proposition of the British agent of the Cadillac car, who is to turn over to the Royal Automobile Club three cars of the same model, after they have been run a while, and to have the club officials direct their complete dismantlement. All the parts are to be mixed up and divided into three parts, then to be turned over to the Cadillac mechanics to reassemble. If all these parts can be put together after being indiscriminately mixed and still fit as well as on the occasion of the first assembling, then America will have proved its claim for good workmanship and interchangeability. A little demonstration like this ought to make the foreign critics sit up and take heed of Uncle Sam.

UNCLE SAM'S good roads bill, introduced by Representative Currier, is credited with having absolutely no chance of becoming a law at this session of congress—it is designed by the author as only an entering wedge, for it is too well known what a long, hard fight it must pass through before it can receive the sanction of the federal legislative body. Representative Currier is entitled to the ablest support individual motorists and motoring bodies can give to secure the passage of the bill as it now stands or as it may be amended. The legislative committee of each motoring organization in the country can afford to give the bill its undivided attention for the next year or so, for there is some hope that congress will see wisdom in passing a measure that will lead the states to become interested in bettering the condition of their respective highways.

PRESIDENT HOTCHKISS has about finished his task of naming his aides for 1908 in the form of committeemen; the directors of the American Automobile Association have also been named. There are good men enough on these committees and on the board of directors to accomplish all that can be accomplished in a single year, but when the touring season opens will they all be on deck and ready to receive orders? In all probability it will be a story oft told—a few doing the work and the others doing the criticizing.

PERHAPS it is just as well that nothing much is being said about the 1908 Vanderbilt cup race; and yet it would be pleasant news now and then to be reminded of the fact that the race will actually be held. Also, how about that parkway?

LANCIA THE GREAT hopes to become more than an unlucky driver of racing cars—he has invented a lubricator and of course has all the hopes that inventors usually have. Now he may be able to grease his way to success.

MEANWHILE President Potter, of the American Motor League, is busily engaged in making out his semi-decadal report, which has been promised on or before the first day of January, 1912.

SOME of the European motor car manufacturers are not in the most flourishing condition, according to a letter received by Motor Age from one of its readers, now abroad. The cab business is responsible for keeping several concerns from being all but down and out and were it not possible for others to so rebuild the 1907 chassis that were carried over there would be more unable to continue in business. Still, it is only fair to say that the prospects for a good season's business have become fairly bright and are improving each day. There is some food for thought on the part of the opponents of the six-cylinder car in the information that the Mercedes concern is now marketing not fewer than three sizes of sixes—55, 65 and 75 horsepower—in addition, of course, to the regular line of fours. By no means has the six-cylinder petered out; nor has it superceded the four.

ALL signs indicate that the Glidden tour of 1908 will be strictly an eastern affair—from Buffalo to Pittsburg and then to the Atlantic coast and through the New England states. If there are any western entrants they will be from the forces of the manufacturers. The private motorist will wait, hoping that at some future time the west will be favored with the tour.

The Week in Brief

Six cars—three French and one each of American, Italian and German manufacture—start from New York for Paris; Werner car leaves day before over southern route.

Winter stunts by motor cars continue, proving all-year-round utility of vehicle; Chicagoans experience tough going through Indiana snow drifts on signboard trip.

American Motor Car Manufacturers' Association holds annual meeting in Detroit; re-elects old officers and reports general prosperity among its members.

Motorists will move on to Washington February 19 and help push along federal registration motor bill introduced by Representative Cocks of New York.

Chicago tradesman on visit to European factories tells of conditions on other side of Atlantic; describes trip through Mercedes plant.

New racing board of American Automobile Association is announced; also more names are added to board of directors.

Indiana registration figures show there are about 5,000 cars in state, with Cadillac showing greatest numerical strength.

Seven entries actually in for road races at Savannah; enough more in sight to insure success of tournament.

New York assembly man proposed to tax motor cars at 50 cents a hundred pounds.

Dieppe course is chosen for French grand prix, which will be run July 7 and 8.

Show given by Tri-state Association has successful opening.

Coming Motor Events

Cleveland Show—Sixth annual exhibition of Cleveland Automobile Dealers' Co. in Central armory, Cleveland, O., February 17-22.

Bay State Reliability—Endurance test of Bay State A. A. over Boston-Providence-Worcester route, February 22.

Coast Hill-Climb—Pasadena-Altadena hill-climb of Automobile Dealers' Association of Southern California, February 22.

Ormond Meet—Beach tournament at Ormond Fla., under auspices of Automobile Club of America, March 2-9.

Boston Show—Annual Boston show, from March 7 to 14, in Mechanics' hall.

Buffalo Show—Sixth annual show Automobile Club of Buffalo, March 9 to 14. D. H. Lewis, manager.

Florida Run—Jacksonville-Miami test, March 11-16, inclusive.

Savannah Road Races—Two days of road racing at Savannah, Ga., March 18-19.

Pittsburg Show—Automobile Dealers' Association of Pittsburg show. Duquesne Garden, April 4 to 11.

Denver Show—Three-day show in Denver, April 6, 7 and 8; G. A. Wahlgreen.

Westchester Road Race—Stock car chassis road race in Westchester county, N. Y., for Briarcliff cup, April 24.

Chicago Hill-Climb—Chicago Motor Club's third annual hill-climb, May 15.

Twelve Hundred Mile Test—Chicago Motor Club's 1,200-mile, 300 miles a day, reliability contest, June 24, 25, 26, 27.

DETROIT'S SECOND SHOW NOW ON

Seventh Annual Exhibition of Tri-State Automobile and Sportsman's Association Opens, with Governor Warner and Mayor Thompson Assisting in Ceremony

Detroit, Mich., Feb. 11—The seventh annual show of the Tri-State Automobile and Sportsman's Show Association opened in this city at the Light Guard armory last evening. It will continue throughout the week. It is Detroit's second show of the season, the local dealers' affair in December having preceded it. A considerable number of the dealers exhibited at both shows and those who are not favoring the second exhibition with their presence, are giving separate shows in their own places of business, thus maintaining the general tone of Detroit's annual motor week.

In many ways the armory show is the most successful in history. It is by all odds the prettiest which the association ever has boasted. The walls, rafters, ceiling and gallery of the hall are completely covered with the color scheme of maroon and white and the hues blend perfectly with the colorings of the cars. The signs are uniform—gold on a background of dark pillars tipped with glowing, incandescent electric light globes.

The show opened with more than the usual formalities. Governor Fred M. Warner came in from his home in Farmington and, with Mayor William G. Thompson, visited the show under the guidance of President William E. Metzger, of the Tri-State association. Early in the evening the notables were escorted to the Continental Caoutchouc Co.'s booth in the main gallery and a cornet signaled for silence. Frederick E. Castle then introduced the state executive, who congratulated the people of the city and state on the excellence of the show and predicted an increasingly brilliant future for the industry which has been so important in its influence on the industrial prosperity of the state. Mayor Thompson, who followed, paid his respects to the show and the industry at greater length.

In general the show contained many points of close similarity to the others which have preceded it. Most of the cars shown have been on exhibition at New York and Chicago. Prominent, however, are several that had not been seen before locally. One of these was the monster Welch vestibule car—a powerful and immense creation round which the curiosity-drawn visitors to the show thronged nightly. The big lavender Packard is shown for the first time in Detroit, although a familiar sight to the show-goers of the large cities. The reorganized Aerocar company shows a number of air and water-cooled cars. The C. H. Blomstrom Co. has a novelty in its gyroscope line, the driving mechanism of which is an invention of Joseph P. Lavigne, a local machine manufacturer known to the motor trade by several other improvements which bear his name. This car is unique in its motor installation and its original application of the friction drive to the shaft-driven car. The motor is a two-cylinder vertical opposed type, developing 20 to 24 horsepower, placed in front, under the hood. Contrary to all other motor installations, however, the crankshaft is placed in a vertical position and the flywheel runs on a horizontal plane below the under side of the crank case. The gyroscopic effect of the flywheel, revolving in this position, reduces the vibration to such an extent the engine can be speeded up to 1,000 revolutions a minute without disturbing a pencil stood on end on top of the cylinders. Transmission is by friction through the medium of an aluminum disk and a fore-and-aft shaft, the pressure of the disk relieving the weight of the flywheel from the bearings almost completely.

The Oakland Motor Car Co., of Pontiac, which had only a limited display at the national shows, has a large booth at the Detroit show and exhibited four models, all constructed on a uniform chassis. The Wayne Thirty is exhibited in a large booth in the central portion of the hall.

As in former years, the largest exhibitor at the armory show is the Cadillac, which takes up a space equivalent to nearly half the end of the hall with a display of the full line of the concern, running from the little single-cylinder runabouts to the large light touring car and including a coupe which already has won no small amount of local popularity. Sales Manager Brigham beat his rivals to the first sale of the show, although the Elmore people were but a few minutes behind.

No small amount of interest centered round the appearance of the new Jackson two-cylinder runabout exhibited to the admiring gaze of those in search of a light car of the selfish variety. The little Brush runabout in its varied styles is just across the aisle.

The Rapid and Reliance are both on hand with motor wagons of the very latest type and both are ready with a line of statistics based on actual use of their output by leading local business concerns.

The gallery display by the manufacturers and dealers in accessories served the purposes of a veritable midway. The accessory dealers are having their first inning locally—the Detroit Automobile Dealers' Association had not enough room to permit them to exhibit in its show at Wolf's park—and they are making the most of it. The battery men are letting their batteries buzz and the tire men blow out inner tubes and demonstrate quick repairs. Lamps, horns, tops, non-skidding arrangements, patent wheels and similar equipments are on view in profusion—a large share of them of local manufacture and the factory people are prominent at most of the booths.

In the drill hall is also a novelty which appeals generally to all the motorists, present or prospective. It is the exhibit of the Wayne County Good Roads Commission, which, after fighting a winning battle in the courts, will expend in the neighborhood of $90,000, secured by taxation of city and county rate-payers as well, on the roads of the county next spring and summer. The commission shows a large line of photographs of good roads work in Michigan, especially in the upper peninsula, along with the blue-prints of the improvements which will be begun in the vicinity of Detroit next April. A combination of rock and tar, with alternate layers of each, has been decided on as the most available method of improvement and a considerable share of the rock to be used will be available in the neighborhood. The commission has selected a half dozen of the most traveled roads in the vicinity of Detroit and will use them as an object lesson with a view to increasing the size of their appropriation in another year. The following is a complete list of the exhibitors at the show:

Main Floor—Aerocar Motor Co., Aerocar; Anderson Carriage Co., Detroit electric; Blomstrom Mfg. Co., Blomstrom; Brush Runabout Co., Brush; Cadillac Motor Car Co., Cadillac; Crescent Motor Car Co., Marvel; Fee-Bock Auto Co., Elmore and Waverley electric; Fee Electric Car Co., Woods electric; Jackson Automobile Co., Jackson; Motorcar Co., Cartercar; Northern Motor Car Co., Northern; Oakland Motor Car Co., Oakland; Rapid Motor Car Co., Rapid; Regal Auto Co., Regal; Reliance Motor Car Co., commercial cars; Standard Auto Co., Packard; Wayne Automobile Co., Wayne; Welch Motor Car Co., Welch.

Gallery—Ajax-Grieb Rubber Co., Auto Igniter Co., Continental Caoutchouc Co., John Desmond, Diamond Rubber Co., Elastic Tire Filler Co., Fisk Rubber Co., G & J Tire Co., Gemmer Mfg. Co., J. L. Gibney & Brother, B. F. Goodrich Co., Goodyear Tire and Rubber Co., Hartford Rubber Works Co., Heinze Coil Co., Hibbard Engineering Co., Jones Speedometer, Michelin Tire Co., Michigan Storage Battery Co., Charles E. Miller, Morgan & Wright, New York and New Jersey Lubricant Co., Norris Auto Co., Perfection NonSkid Climber Co., Pittsburg Lamp and Brass Co., C. M. Preston, C. F. Splitdorf, John H. Thompson & Co., Visor Knitting Co., Wilderspin Tire Co. and Witherbee Igniter Co.

Basement—Economy Cycle Co., Excelsior Supply Co., good roads exhibit, F. Kicherer, Light Mfg. Co., W. E. Metzger, Palm Engineering Co., Seitz & Co. and Stratton Engine Co.

FIND SHOW TOO EARLY

Kansas City, Mo., Feb. 9—The next Kansas City show will not be held so early. While sales at last week's affair exceeded expectations, they would not have piled up a total of $200,000 recorded at the show had it not been for the country buyers. Agents here have from one to five states as territory and therefore are in a position to do business even if the city trade falls off. A careful canvass of the exhibitors gives the almost universal expression that the show was too early in the season, so far as the city proper is concerned. The week's attendance was 15,000 and was

made up mostly of persons who are interested in the motor cars. The percentage of those who come to study was unusually large and speaks well for the interest taken in the west. It was the opinion of the only manufacturer in the show, Benjamin Briscoe, that the west would be the big market this year. Hayden Eames, of the Studebaker company, was at the show several days, taking time to announce a new line of gasoline commercial vehicles to be put out by his concern. Mr. Eames believes both types, electric and gasoline, are necessary in the perfect goods transportation service. Generally speaking, the west will not suffer so much from any curtailing of trade that may affect other sections of the country. This is largely accounted for by the fact that there has always been an absence of splurge in the motor car trade. Here the motor car was considered an industry, not a game. Every indication is that this condition will continue. Business is being done on a more conservative basis this year than last, perhaps, but the aggregate should be somewhat larger than last season.

SAVANNAH ATTRACTS ENTRIES

Savannah, Ga., Feb. 9—With every prospect of a successful road tournament next month the Savannahans are aroused to enthusiasm and are working harder than if they had a national convention on their hands. Indeed, so enthused are they that already there is talk of going after the Vanderbilt cup race, it being the opinion that when the easterners see the course here next month they will become convinced that Georgia has the best roads for such an event as the American classic. The list of entries received includes two Apperson Jackrabbits, two Thomas-Detroits, two Isottas and one Premier. Assurances have also been received from manufacturers of the following cars that they will be represented in the race: Stearns, Stevens-Duryea, National, Mora, Studebaker, Dragon, York Pullman, Pennsylvania, Stoddard-Dayton, Fiat, Chadwick, Maja and Acme.

DIEPPE COURSE SELECTED

Paris, Feb. 1—The Dieppe circuit is definitely decided on for the grand prix and the dates will be July 7 and 8. It is known the number of entries from England will be greater than expected—perhaps six or eight—but those from France will show a slight diminution, in view of the fact that some of the houses are ill-prepared financially to stand the expense of a big race. The tribunes will be erected 800 yards from the fork roads, but on the road leading to Envermeu. They will be on the interior of the circuit and news will be available regarding the probable winner for some minutes prior to his actual arrival, since a sight can be had across the intervening tongue of land to the other leg of the circuit. The circuit is in good condition and the tarred surface does not appear to have suffered much.

KEEPS THE OLD STAFF

A.M.C.M.A. Holds Annual Meeting in Detroit and Retains All Its 1907 Officials

Detroit, Mich., Feb. 9—Following the most prosperous year in its history, the American Motor Car Manufacturers' Association at its annual meeting here Friday and Saturday, re-elected the full committee of management which comprises Benjamin Briscoe, chairman; R. E. Olds, vice-chairman; H. O. Smith, treasurer; William Mitchell Lewis, secretary, and W. H. Van Dervoort, auditor. Three new members of the committee of management were elected for 3-year terms. They were G. G. Stoddard, Dayton Motor Car Co.; Barney Everitt, Wayne Automobile Co., and William Mitchell Lewis, Mitchell Motor Car Co. The other members of the committee of management are: Charles Lewis, Jackson Automobile Co.; W. C. Marmon, Nordyke & Marmon Co., and Alfred Reeves, general manager.

Particulars of the meeting as given out by General Manager Reeves show that of the fifty-two members comprising the membership in the association, there was an attendance of almost 75 per cent, even though there was nothing of a very startling nature to be discussed.

This year was an extremely profitable one for the association in the matter of shows and it was decided to distribute a 25 per cent rebate to all the members who exhibited at the Grand Central palace show. The financial report indicated that the association was in the best financial condition of its history. It was voted to turn over $5,000 to the good roads committee to be expended during the current year at its discretion.

As a result of a recent meeting between the representatives of the A. M. C. M. A. and the American Automobile Association, it was voted to co-operate with the A. A. A. in the matter of tours and races, and a special committee for the purpose was selected, consisting of H. O. Smith, chairman, Premier Motor Mfg. Co.; A. C. Newby, National Motor Vehicle Co.; W. C. Marmon, Nordyke & Marmon.

While reports indicated there had been a slight falling off in the sale of cars in the big cities during the last 3 months of 1907, it was shown that there had been an increase in the sale of cars in cities of less than 50,000 inhabitants.

There was a long discussion regarding shows at New York and Chicago, and after making certain recommendations the matter was placed in the hands of the show committee. Just what was talked over in the show discussion is not known and no one shows any disposition to express an opinion on the dates selected by the A. L. A. M. and the N. A. A. M.

The report of Chairman Briscoe reviewed the active work of the association during the year. It referred particularly to the many exclusive privileges and benefits which association members have enjoyed. There were full and complete reports read by all the officers and by the chairmen of the committees on shows, good roads, advertising and publicity, tours and races, legislation, membership, freight and transportation, standardization and agencies.

FAVORS MOTOR CONTESTS

Philadelphia, Pa., Feb. 9—The annual meeting of the Quaker City Motor Club, of Philadelphia, was held in the club's quarters at the Hotel Majestic last Thursday night. Retiring President Swain, to whose efforts much of the success of the club can be attributed, made a strong plea for the continuance of the club's activity in the promotion of race meets, endurance runs, hill-climbs and similar competitive contests, it being his opinion that such affairs are necessary to maintain interest in the club and promote its growth. He also proposed the addition to the club's working force of a permanent technical committee composed of members qualified and willing to do the hard work necessary to an intelligent performance of their duties. The prizes hung up in the recent Allentown endurance run were presented. The annual election resulted as follows: P. D. Folwell, president; A. T. James, first vice-president; L. D. Berger, second vice-president; A. T. Stewart, treasurer; Harry C. Harbach, secretary; board of governors, Charles J. Swain, G. Douglass Bartlett, Frank Hardart, E. H. Lewis, Richard Sellers, John R. Overpeck, G. Hilton Gantert, M. E. Brigham, W. J. Donnelly and the general officers.

ROASTS "JERSEY JUSTICE"

New York, Feb. 9—"Jersey justice" was stood up for target practice by President W. H. Hotchkiss, of the American Automobile Association, and was airily riddled at the annual banquet of the New Jersey Automobile and Motor Club at Newark on the night of the 6th instant. This dinner was quite the incident of the week here, the guests and speeches making it notable. The club is the third largest in the United States and is conspicuous for its activity in the holding of contests and for its esprit de corps. Governor Fort, of New Jersey, was the guest of honor and the speakers included besides him J. B. R. Smith, the motor vehicle commissioner of the state; President Hotchkiss, Charles T. Terry, Secretary E. H. Elliott and A. G. Batchelder, of the A. A. A. Governor Fort advocated several changes in the existing motor laws of the state, but not those most desired by the users of motor cars. He conceded it is unjust for the motorist to be required to pay the major part of the tax for road improvements and suggested a general tire tax, for all vehicles, as a remedy. President Hotchkiss made the chief address and delivered an unending fire of hot shot.

NEW RACING BOARD IS SELECTED

Chairman Thompson Picks His Assistants and A. A. A. Executive Committee Accepts Them—More Directors for National Body Named—Country Well Represented

New York, Feb. 7—The make-up of the new racing board of the American Automobile Association was announced last night following the meeting of the executive committee. At the same time several additional members were added to the board of directors. Chairman Thompson selected his associates and the complete board will consist of thirty members. There will this year be no technical advisors, the new technical board supplying all that is necessary in the way of technical assistance to the racing board. Several members of the latter—as, for instance, Thomas, Riker and Ford—are also members of the technical board.

The community of interest plan recently adopted by the American Automobile Association and the automobile manufacturing organizations is evidenced by the appointment to the new board of representatives of those bodies. It is considered that the time has come when racing matters should be directed, not entirely by amateur sportsmen appointed from the various clubs of the country, but also by manufacturers, and that with both elements represented on the racing board much can be more effectively accomplished by the association than heretofore.

It is expected shortly to announce the new racing rules. Already the executive committee of the association has declared in favor of certain restrictions so far as circular track racing is concerned, and these will be incorporated in the new rules. A rough draft has been prepared and forwarded to the members of the board for their consideration, and a meeting for the purpose of passing upon the rules will shortly be held.

The racing board is made up as follows: Jefferson De Mont Thompson, chairman; Frank G. Webb, vice-chairman; Frederick H. Elliott, secretary; W. K. Vanderbilt, Jr., New York; Ira M. Cobe, Chicago, Ill.; Asa Paine, Minneapolis, Minn.; Benjamin Briscoe, Tarrytown, N. Y.; Dave H. Morris, New York; J. J. Mann, Paris, France; A. B. Lambert, St. Louis, Mo.; George L. Weiss, Cleveland, O.; Harry W. Knights, Boston, Mass.; Harold H. Knowles, Cleveland, O.; Rossiter Worthington, New York; Henry Ford, Detroit, Mich.; H. A. Bonnell, Newark, N. J.; Charles J. Swain, Philadelphia, Pa.; Lewis R. Speare, Boston, Mass.; A. R. Pardington, Brooklyn, N. Y.; Thomas Henderson, Cleveland, O.; R. Lincoln Lippitt, Providence, R. I.; A. L. Riker, Bridgeport, Conn.; Percy Owen, New York; S. A. Miles, New York; Alfred Reeves, New York; A. G. Batchelder, New York; E. R. Thomas, Buffalo, N. Y.; George G. Greenburg, Chicago, Ill.; S. M. Butler, New York; S. L. Haynes, Springfield, Mass.; H. L. Bowden, Boston, Mass.

The next meeting of the board of directors will be held at the association's headquarters on Tuesday, March 3. Thereafter meetings of the board of directors and its executive committee will, so far as possible, be set for other cities, thus giving directors living at a distance from New York an opportunity to attend some of the meetings. A complete list of the directors for 1908 follows: William K. Vanderbilt, Jr., Automobile Club of America; Ira M. Cobe, Chicago Automobile Club; Frank B. Hower, Automobile Club of Buffalo; Jefferson DeMont Thompson, Automobile Club of America; Lewis R. Speare, Bay State Automobile Association; Isaac Starr, Automobile Club of Philadelphia; E. H. R. Greene, Dallas Automobile Club; Charles Jerome Edwards, Long Island Automobile Club; Asa Paine, Florida East Coast Automobile Association; A. G. Batchelder, New York; Windsor T. White, Cleveland Automobile Club; Edwin S. George, Automobile Club of Detroit; Edward Kneeland, Automobile Club of Pittsburg; Robert P. Hooper, Automobile Club of Germantown; Sidney S. Gorham, Chicago Automobile Club; S. M. Butler, Automobile Club of America; Frank M. Joyce, Minneapolis Automobile Club; James T. Drought, Milwaukee Automobile Club; Elliot C. Lee, Massachusetts Automobile Club; George E. Farrington, Automobile Club of New Jersey; Paul C. Wolff, Automobile Club of Pittsburg; L. E. Myers, Chicago Automobile Club; Giles H. Stilwell, Automobile Club of Syracuse; Elliot Flint, Rhode Island Automobile Club; Oliver A. Quayle, Albany Automobile Club; D. Emmett Welsh, Grand Rapids Automobile Club; J. H. Edwards, Automobile Club of Hudson County; Osborne I. Yellott, Automobile Club of Maryland; Roy F. Britton, Automobile Club of St. Louis; George B. Dennison, Automobile Club of Hawaii; W. F. Fuller, Automobile Club of Hartford; Val Duttenhofer, Jr., Automobile Club of Cincinnati; George A. Post, North Jersey Automobile Club; Stanford L. Haynes, Automobile Club of Springfield; Frederick H. Elliott, New York; H. S. Woodworth, Rochester Automobile Club; K. G. Roebling, Mercer County Automobile Club; F. T. Sholes, Cleveland Automobile Club; Joseph H. Wood, New Jersey Automobile and Motor Club; A. R. Pardington, Brooklyn, N. Y.; John P. Coghlin, Worcester Automobile Club; H. M. Rowe, Automobile Club of Maryland; Oliver Crosby, Automobile Club of St. Paul; W. H. Chase, Wachusett Automobile Club; William T. White, Mercer County Automobile Club; F. L. Bartlett, Colorado Automobile Club; N. H. Van Sicklen, Chicago Automobile Club; Horace C. Chandlee, Automobile Club of Washington, D. C.; George H. Wilson, Louisville Automobile Club; Frank C. Battey, Savannah Automobile Club; H. O. Smith, Indiana Automobile Club; Fred A. Godcharles, Automobile Club of Central Pennsylvania; Charles P. Root, Chicago Motor Club; J. A. Speckenhier, Automobile Club of Wayne County, Ind.; C. H. Benedict, Automobile Club of Schenectady; Peter A. Meixell, Wilkes-Barre Automobile Club; C. D. Hakes, Albany Automobile Club; Neal Brown, Wisconsin State Automobile Association; Harry M. Rubey, Automobile Club of Macon, Mo.; Charles Thaddeus Terry, New York; J. H. Weeks, Automobile Club of Delaware County, Pa.; Otis W. Sherman, Hudson Valley Automobile Club; Milbank Johnson, Automobile Club of Southern California; W. D. Petersen, Automobile Club of Davenport; Harvey T. D. Wilson, Houston Automobile Club; Albert Mackie, Automobile Club of New Orleans; H. J. Lama, jr., Macon Automobile Club; W. E. Minghini, Martinsburg Automobile Club; W. H. Riddle, Rutland Automobile Club; H. S. Crawford, San Antonio Automobile Club; H. L. Myers, Tidewater Automobile Club; William H. Hotchkiss, Automobile Club of Buffalo.

INDIANA'S CAR STRENGTH

Indianapolis, Ind., Feb. 11—A glance at figures compiled from registration records in the Indiana secretary of state's office might suggest that the Hoosier car owner is fickle. There are barely 5,000 cars in use, yet these are distributed among 195 different makes, to say nothing of 150 or more cars that are home-made. Of 131 different makes having two or more cars in use in the state, twenty-eight of them are of Indiana manufacture and are numbered among the leaders. However, Hoosier loyalty to home-made motor cars is manifested more in Indianapolis than throughout the state, principally for reason the majority of cars in use outside of Indianapolis are low or medium-priced runabouts. In Indianapolis higher-priced runabouts and touring cars are in the majority. The preparation of a comparative list from the state registration figures shows there are 867 motor cars in use in Indianapolis, of which eighty-one are used by physicians. There are 203 physicians in the state outside of Indianapolis using motors, a smaller number than usually estimated. Figures on motor cycle registrations show that this type of vehicle is gaining in popularity, there being 143 registrations of which forty-three are by Indianapolis people. There are two physicians in the state depending upon motor cycles for transportation, while Indianapolis doctors have not begun using them. It will be noticed from figures given below that the seven manufacturers most represented, are all located outside of Indiana. Another feature that has frequently been called to the attention

of Indiana manufacturers is that commercial cars used in Indiana as a rule are manufactured outside the state. The few Indiana manufacturers who are paying attention to this branch of the industry, however, are well represented. As compiled from the state registrations, these motor cars are represented most in Indiana:

Cadillac	515	Franklin	77
Ford	494	Pope-Toledo	74
Oldsmobile	415	Studebaker	72
Rambler	249	Autocar	71
Maxwell	214	Stoddard-Dayton	62
Buick	192	Wayne	62
Reo	168	Queen	57
Premier	159	Lambert	56
Pope-Waverley	134	Leader	54
Auburn	117	Orient	53
Winton	110	Holsman	53
White	100	Marmon	52
Haynes	81	Locomobile	41
National	79	Jackson	41
Mitchell	77	Yale	37

RULES ON THE BERLIET

Washington, D. C., Feb. 8—A regulation was issued by the treasury department this week to the effect that on the exportation of motor cars manufactured by the American Locomotive Co., of New York and Providence, R. I., with the use of rough castings of iron, steel or chrome nickel steel, drop forgings, steel bars and springs, motors, gears, transmissions, radiators and fans, aluminum gear casings, brass parts, bodies and parts of bodies. tires and parts of tires, and other parts and materials, all of which are imported, a drawback will be allowed equal in amount to the duties paid on the imported parts and materials so used, less the legal deduction of 1 per cent. The regulation prescribes that the drawback entry must show the total number of motor cars exported, the imported parts and materials used in the manufacture of each car, describing said parts and materials as they are described in the import invoices, and in addition to the usual averments, that the cars exported were manufactured of the materials and in the manner set forth in the manufacturers' sworn statement filed with the drawback entry of the concern.

SEARCHMONT SUIT DECISION

New York, Feb. 10—The publicity department of the A. L. A. M. sends out the following concerning the Searchmont suit: "The appellate division of the supreme court has just affirmed the judgment rendered by Justice O'Gorman in the suit of Rowland vs. Clifton and known as the Searchmont suit. The trustees in bankruptcy of the Searchmont company, which was formerly a member of the licensed association, thought they had cause to require a division of the funds in the association at the time their license was cancelled. An important section of Justice O'Gorman's decision, which was unanimously sustained by the five judges of the appellate division, is to the effect that the provisions of the license in regard to its cancellation and the provisions of the association agreement regarding the forfeiture was fully carried out." The case in question is well known in the trade.

AS A YANKEE SEES IT

Chicago Tradesman Visits European Factories and Describes the Foreign Situation

Chicago, Feb. 7—Interesting trade gossip from Europe is contained in a letter written Motor Age by F. P. Illsley, a former Chicago dealer now on the continent. It says: "I have spent the day going through the Mercedes factory and picked up a few bits of gossip which may interest Motor Age readers. Of course, it is known M. Charley, of Paris, is out. The Mercedes people seem to have awakened at last to the fact that Jenatzy hasn't nerve enough to drive a high-powered racing car, and I am told on excellent authority he will not handle a Mercedes this year. They are preparing to go in to win this season. I saw chassis complete, except for the engines, for ten racing cars and saw these engines on the testing stand. They are about 150 horsepower and seemingly of the same design in regard to valves, carbureters, etc., as last year's racing cars. The wheelbase is short and the frame is bent upward at both ends to give clearance over the axles. The Mercedes makers have by far the finest factory I have so far seen, either in America or Europe. It is kept immaculately clean—even in the foundry. Every window is washed once a week, and the interiors of all the buildings are whitewashed twice a year. There is a washroom fitted with steel lockers for 3,000 men, and wash basins with hot and cold water for 1,000. They are at present working 2,000 men at Untertinkheim alone; I don't know how many more at Canstatt. They are building the regular line of four-cylinder cars, three sizes of sixes—55, 65, 75 horsepower, and also some special 50-horsepower sixes for the German army. The Mercedes people have started an innovation by building a large factory for both open and closed bodies, so they now sell more completed cars than they do chassis. They have worked out quite an ingenious scheme by which they can make a seat of the king of Belgium type of double curve out of one piece of wood without cutting or crimping. In other words, they can do with wood what heretofore has been possible only with aluminum. The result is their wood bodies are actually less in weight than their own make of aluminum bodies.

"To one who thinks the Mercedes people have lost their grip, a visit to their factory will be a big surprise. They seem to be the only makers of high-powered cars in Europe who are able to find a market. They have somewhat of a stock on hand, but not many, whereas other factories are swamped almost. One plant which I visited last week has about 300 of last year's cars still to move, and rumor has it that some of the big Italian factories are in even worse condition. At another plant where, while it had quite a number of pleasure cars on hand, its business in motor cabs is so large it itself can support the factory. I have ridden quite a bit in different motor cabs, and from what I have seen I think they will not be successful in America. They haven't enough power for anything except absolutely level roads. On the hill at the west end of the Champs Elysees—so slight a grade a car hardly will roll down of its own weight—a cab with three passengers must go up on second gear. On a trip I made with two friends to Versailles in one, we had to do most of the hills there on low gear. The cabs cannot run slowly on high gear, either; it is either 15 to 20-miles-an-hour pace or shift, therefore they must take the bad pavement at full speed or change. When these cabs are sent to America and tried on New York hills, or Chicago's snowy drifts in winter, I think they will fail completely. The general opinion seems to be that the Chenard-Walcker is the best cab, although the best I have found, so far as easy riding and quietness is concerned, is a gasoline-electric something on the order of the Columbia, but with motors on both front wheels. Of course, it is no good for bad roads, hills, or snow, but on the level streets of Paris it is the best of them all.

"Another thing plain to be seen is that motor trucks in Europe and trucks in America are two vastly different propositions, and that before we are really as successful with them as they are in Europe we must first get as good roads as they have here, not only in the country, but in the city. London has a large number of trucks—most of them propelled by steam and running 8 to 12 miles an hour on steel tires—and they make country runs to surrounding towns, too. On the other hand there are practically no trucks in Brussells and but few in Paris, the chief reason being the streets in both cities are rougher than in London, although in both places the worst of their streets are better than Michigan avenue north of Adams street. Berlin has the finest I have so far seen. As a consequence motor buses are running at a profit. They are the same make which fail to stand up in London, although the London streets are but slightly inferior to those of Berlin. During 3 weeks in London I saw quite a number of buses disabled. In Berlin during the same length of time not one did I see in trouble."

BREWERS MAP OUT ROUTES

Milwaukee, Wis., Feb. 9—The route for the 300-mile 3-day reliability run, which is to be conducted by the Milwaukee Automobile Trade Association on February 26, 27 and 28, has been selected. The first day's trip will be from Milwaukee to Madison, the second day's from Madison to Oshkosh and the third back to Milwaukee. It will be a sealed contest, every part of each machine being sealed at the start. The motor car dinner will be held at Milwaukee on February 17.

CHARACTERISTIC FEATURES OF ENGINES

THE features of this year's engines, about which I have collected information at the Olympia show and since, are those of details that are apt to escape notice rather than those of the more striking novelties, such as the valveless engine, which everyone hears of and examines for himself. Engines generally are approaching more and more to one or two standard types, but in their details there are many points which show no tendency to standardize themselves and of which time alone will be the deciding agent.

One of the most fundamental points of an engine is the shape of the cylinder, or the ratio of its stroke to bore, and about this there exists the widest divergence of opinion. The ratio varies from 0.73 in the Bollée and 0.75 in the 28-horsepower Lanchester to 1.67 in the 10-14-horsepower Renault, and 1.60 in the 10-14-horsepower La Buire. Fig. 1 shows the relative number of engines of each ratio at the Olympia, and Figs. 2, 3, 4 and 5 show the relative number for four ranges of power up to 20 horsepower, from 20 to 30 horsepower, from 30 to 42 horsepower and above 42 horsepower respectively.

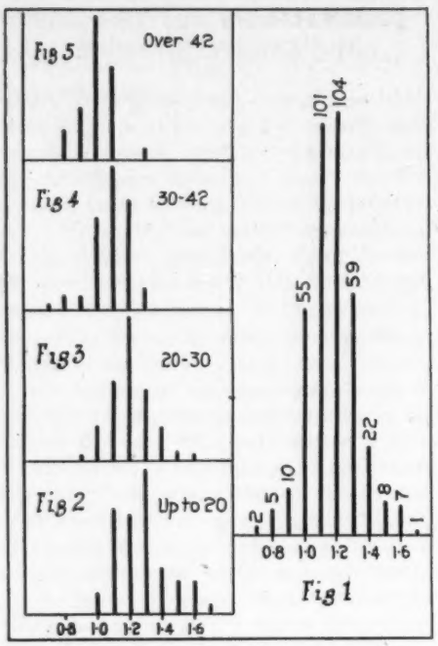
The average ratios diminish as the horsepowers increase, and are in the four cases 1.3, 1.2, 1.1 and 1.02. The variations in each case are very considerable between the different makers, and even the same maker seems to have formed a definite conclusion in only quite a few cases. Fiat, for instance, keeps more or less to a ratio of 1.2 for all sizes, while Bollée keeps to about 0.8. A large number of makers retain the same stroke for several sizes, which makes the ratio decrease with increase of horsepower, but this may be for reasons connected with machine tools and jigs rather than with the properties of engines. Several old makers, such as Mors and Darracq, appear to have no settled convictions on the subject.

TABLE I

Ratio $\frac{S}{B}$	0.73	1.67
Bore, inches	4.375	
Stroke, inches	3.19	7.31
Revolutions per minute	1580	690
Torque, pound-foot	600	1370

Table I shows a comparison between two engines having the extreme ratios found at Olympia, 0.73 and 1.67. The figures do not refer to the actual enignes, but are supposititious. The same bore has been taken, and the same piston speed, so that the rate of consumption of fuel is the same, the rate of flow of gas during induction and exhaust being the same in the two cases. The bore being the same, the maximum pressure on the piston and the connecting rod and its bearings is the same, so that the weights of the reciprocating parts can be the same, the inertia force the same, and the frictional resistance more or less the same.

Now, the A. C. F., before adopting a rating formula, made a series of measurements to determine the maximum horsepower of ninety-six different engines, and these measurements throw some light on the effect of different ratios. In Fig. 6 I have plotted a number of curves, each curve referring to four-cylinder engines of the same bore, the ordinates representing the maximum horsepower obtainable from the engine and the abscissæ the ratio of stroke to bore. Practically all these curves tend downwards, showing that the power diminishes as the ratio increases, or that a short-stroke engine gives more power than a long. There are sixteen curves altogether, and of these fourteen tend downward, while two tend nowhere in particular—not a single curve shows an upward tendency. The facts therefore seem very conclusive. The reason of this decrease of power with increase of stroke is probably that the time of the expansion stroke in the long-stroke engine is longer, and the cooling of the gases greater. As the loss of heat to the cylinder walls is the principal loss in a gas engine, the difference in efficiency from greater opportunity for cooling might well be considerable. The only difference apparent from the table is that the torsional movement on the shaft is greater in the long-stroke engine than in the short, which means that a larger shaft is needed. The difference is not great, as the bending movement remains the same, but what difference there is is in favor of the short-stroke engine. Moreover, the higher speed of rotation of the short-stroke engine is an advantage from the point of view of the fly-wheel, and the clutch, and other transmission mechanism combined in the total car.



FIGS. 1, 2, 3, 4 AND 5

So far everything points to a short-stroke engine being the better, but there must, of course, be a limit, and a limit is in fact indicated in the few curves which extend to small ratios. The limit is probably determined by the cooling of the gases. For any design of cylinder there is a given ratio of stroke to bore which will give the minimum cooling surface for a given volume of gases. This ratio is generally well over one, so that as the ratio is diminished the cooling increases, because the cooling surface increases, and at the same time diminishes because the time of cooling decreases. At a certain point will come the happy mean which should give maximum horsepower.

Coming now to the more visible characteristics of this year's engines one finds two very marked tendencies, the increase in six-cylinder engines and the increase in casting cylinders en bloc, in one piece.

Out of 144 makers sixty-nine build six-cylinder engines. It has been stated that there are over 120 different six-cylinder engines, but that number must include engines by the same maker of different sizes. By far the greatest number of makers cast the cylinders of their engines in pairs, and the number now casting them in blocks of four is nearly equal to the number casting separately. The figures are:

Makers casting cylinders separately	34
Makers casting cylinders in pairs	88
Makers casting cylinders in blocks of three	4
Makers casting cylinders in blocks of four	29
Makers casting cylinders in blocks of six.	2

The number casting in blocks of four is rather striking, as I can recall only one engine so cast at the 1906 show.

Rolls-Royce starting casting in blocks of three for a six-cylinder engine, and this year has been followed by Delaunay-Belleville and La Buire. The O. U. R. S., said to be the only three-cylinder engine at the Paris show, is also cast in a block. The two makers who go the length of casting six cylinders in a block are Miesse and Beatrix.

Without entering upon the old question of the relative merit of cylinders cast separately or in pairs, the latter have two advantages; first, piping that is simpler and less effective; secondly, a shorter engine, if the crankshaft be allowed two throws without an intermediate bearing. But this arrangement brings one to the limit as regards shortness if plain bearings are used. There is, as a rule, no length wasted in the crankshaft. Consequently, though the cylinders may be brought closer together by casting in blocks of four or six, the engine can be shortened only by sacrificing bearing surface or by the use of ball bearings. The two six-cylinder engines cast in a block, Miesse and Beatrix, both use ball bearings on the crankshaft, and the engines are no longer than most four-cylinder engines of the same power.

EDITOR'S NOTE—Paper read before the members of the Royal A. C. on January 23, 1908, by C. H. Baillie. This is but the first part; the second part will appear next week.

Several of the engines with four cylinders in a block also use ball bearings. Others, such as Aster and Unic, have only two bearings, one at each end. This, probably, is quite sound practice up to a certain small limit of power; beyond this the difficulty of providing a sufficiently strong shaft would be considerable.

The number of examples of en bloc casting now existing show that there is no real difficulty in the actual casting, and there can be no question that if it be practicable to shorten in this way the large-powered four, and more especially the six-cylinder engines, the advantage gained would be very material—there would be so much more room between the axles, that is, in the right place, for the body. The question, however, seems to be bound up with that of ball-bearing crankshafts. Now that two makers—Mercédès and Hotchkiss—appear to have given up their use after extended trial, one feels inclined to suppose that they must offer insuperable objections. On the other hand, the makers adopting ball bearings are continually increasing, and it will be interesting to watch the fate of the fifteen or more ball-bearing crankshafts now existing.

The difficulties are, first, that the cages or separators ordinarily used give way on crankshafts, and I believe that all crankshaft races are completely filled with balls, in spite of the extra wear this entails. Secondly, and chiefly, the difficulty of getting the ball bearing in place between the throws. This is done in four different ways. First, by threading the bearing on the shaft, the crank webs being especially shaped to admit of its passing over them. When in position the bearing is secured by a more or less satisfactory fixing.

This is the system followed by Mercedes, Hotchkiss and others. It does away with some of the advantages to be found by ball bearings, as the length of the part of the crankshaft taking the bearing must be greater than the length of the bearing to allow its being fixed in position. Secondly, the bearings are made large enough in diameter to slip over the throws without twisting them round the bends. Fixing is then easy, and requires no extra length. This is Germain and Beatrix practice. The disadvantage is that if large balls are used the outside diameter of the bearings is enormous, and in any case the speed of the ball races is very high.

Thirdly, the crankshaft is built up, so that each bearing can be fixed directly in place and the shaft afterwards put together. The Sheffield-Simplex engine has this year adopted this system, and has produced a very sound job as far as the bearings are concerned. The ball races are of small diameter, and very large balls are fitted. A crankshaft, though, has a very hard life, and a built-up shaft must be exceptionally well built to stand the racket. Certainly the Sheffield-Simplex looks a most sound job, and it is to be hoped that the shaft construction will not give trouble, as the construction is excellent from the point of view of bearings only.

Fourthly, the races are in two halves and slipped on to the shaft. This is the easiest and simplest method, and has long been used in the White steam cars. The only gasoline engine I know of which uses it is the Miesse. I gather that M. Miesse uses ball bearings only when he must, for his six-cylinder engine has the two outside bearings plain, and the next two from each end ball, while the two center throws are without an intermediate bearing. There are thus two plain and four ball bearings on the shaft. If split races have the disadvantage that, as seems certain, the wear will first show itself at the split, they have the advantage of easy replacement.

The horizontal engine is becoming more and more scarce. All I found were N.E.C., a four-cylinder engine with cylinders opposed two and two; Pilgrim, and James and Browne, four cylinders side by side; Buick, two opposed cylinders; and Cadillac and Adams, with single cylinders. From the carriage point of view, there is no doubt that the horizontal engine in larger powers, as in the N.E.C. and Pilgrim, does offer very material advantages. I think the makers are deserving of great sympathy; they must have such an uphill fight against fashion and prejudice, as well as against any defects their particular engine or type may have.

The V-type engine has only two followers outside motor cycle engines—the Antoinette eight and the Riley two-cylinder.

The commonest type of vertical engine has its valves arranged in side chambers on each side. Sixty percent have this arrangement, and 40 per cent have their valves side by side in a single chamber. I do not, of course, pretend to give complete or exhaustive statistics on this or on any other point, and there are doubtless many engines that have escaped my notice.

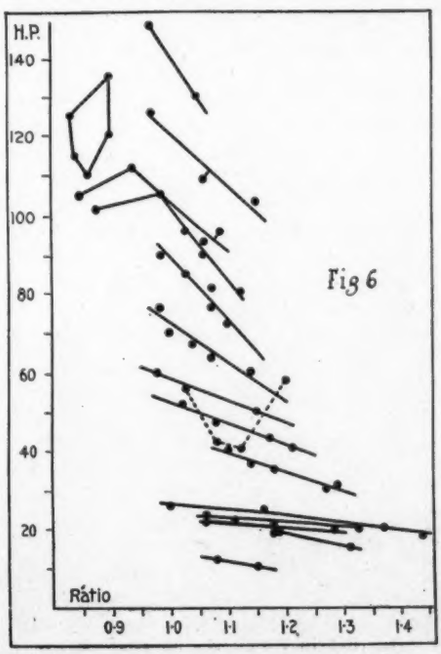


FIGURE 6

Other valve arrangements are becoming increasingly rare. There are five with the inlet valve vertically over the exhaust valve—Arrol-Johnston, Fafnir, Rothwell, Ariel and Horch. Two, with the inlet valve in the center of the engine head and the exhaust in a side chamber—Metallurgique and Motobloc. There is the Pipe alone with the two valves, one on each side, with their stems pointing upwards at an angle of 45 degrees, and the Maudslay, Putney and Gaggenau, with all the valves in a line on the top of the cylinders. I believe that the Thornycroft engine of this type is being abandoned.

I think there can be no question that the Maudslay and Pipe arrangements, which avoid any side chamber to the compression space, must give the most efficient engine, but both constructions are more costly than the ordinary, and the Pipe is decidedly complex. On the other hand, the Maudslay type gives an engine extremely accessible in all its parts, and allows of doors in the crank chamber large enough for drawing a piston.

It is difficult to see much advantage in having the inlet valve in the head or above the exhaust valve. It is a more complex construction, and the saving of cooling surface in the side chamber is small. The latter arrangement, however, is supposed to keep the exhaust valve cool by the inlet gases impinging on it.

The numbers of engines with valves in side chambers on the same and on opposite sides show that makers are fairly evenly divided in opinion on their relative merits. The valves together must make a rather more efficient engine, and only one camshaft is needed. On the other hand, it is more troublesome to properly arrange the piping when exhaust and inlet pipes are together, and the carbureter is apt to make the valves difficult of access.

RUNNING WITHOUT FLOAT VALVE

An unresourceful motorist might imagine with the float valve of the carbureter hopelessly out of commission, so that continuous flooding resulted, that it was about time to seek a tow. But a correspondent who recently found himself in this predicament proved ingenious enough to find a very simple way out of the difficulty. This was simply to adjust the gasoline shut-off valve, between the tank and the float chamber, so that it permitted a steady flow of fuel at about a proper rate for average running. Then by keeping the motor under practically constant throttle, and driving a good deal with the clutch, it was found possible to run some forty or fifty miles with very little trouble. Occasional readjustment was necessary until the right position was struck, and at the foot of long hills it was necessary to increase the flow somewhat and at their summits to choke it down, but on the whole the result was a surprising success, even in point of fuel consumption, which was only lightly greater than normal.

THE READERS' CLEARING HOUSE

HIGH AND LOW TENSION

Chicago, Ill.—Editor Motor Age—Please tell me the difference between the wiring of a low-tension magneto and a high-tension system with coil, each of course to be capable of giving a spark that will ignite gas in a motor.—Robert Scott.

The wiring of a low-tension magneto is simplicity itself, there being only one wire from the magneto, which is connected with the insulated electrode of the make-and-break device of the igniter. This sort of magneto can be used only when the engine is originally provided with a make-and-break sparker for low-tension ignition. It must be geared to run at the engine speed, or at some multiple of the engine speed, and the armature poles must be about half way between the field magnet poles when contact is broken. High-tension magnetos are of several different types and the wiring depends largely on whether a separate coil outside the magneto is employed or whether the secondary winding is on the armature itself. In the latter case the only wires are the secondary wires leading to the spark plugs. If, however, a separate coil is used there is a primary wire from the magneto to the coil, a return primary or ground wire from the coil and high-tension wires from the coil to the spark plugs. If provision is made for a battery in addition, the wiring is still further complicated, each magneto having its own arrangement.

CENTRIFUGAL FORCE

Dubuque, Ia.—Editor Motor Age—The recent articles in the Readers' Clearing House concerning "A Muddled Expert," who attempted to explain the upsetting of a car when rounding a corner, interested the writer to such an extent that he feels called upon to make some remarks concerning centrifugal force. In the first place, centrifugal force and gyroscopic force are nothing more or less than inertia, which can be defined as "that property of matter which causes any object at rest to remain at rest forever until operated on by some outside force and which causes any object in motion to continue in motion forever in a straight line until operated on by some outside force." The outside force may be gravitation, magnetism, friction, expansion, etc., or the inertia of another body. Each particle of matter in a flywheel or other revolving body is attempting to travel in a straight line and would, if released, fly off in a direction tangent to the circle in which it had been moving and continue to move in a straight line until acted upon by gravitation and the friction and inertia of the atmosphere. In short, inertia resists any attempt to cause matter to travel in anything but a straight line, and as changing the plane of rotation of any object means causing each particle of matter to depart still further from a straight line than if it were allowed to continue revolving in the same plane, we have gyroscopic force.

When a motor car is turned out of its straight course, inertia—which is identical with centrifugal force—resists the change in the direction of movement and tends to force the entire mass of the machine to continue in a straight line. The sharper the curve, the greater the speed, and the heavier the car, the greater will be the force pushing the machine outward. This force is counteracted by friction of the tires on the road. If the road is wet the car is apt to slide into the ditch; but if the tires hold to the road and the force is great enough to overcome gravitation, the inside wheels will be raised from the ground. If this does not reduce the road friction enough to make the outside wheels slide sidewise, the car will roll over toward the outside of the curve. The gyroscopic force of a flywheel on a fore-and-aft horizontal shaft counteracts the turning of corners, but neither aids nor prevents upsetting. The centrifugal force of the wheels does not enter into the problem at all. The wheels exert a slight gyroscopic force counteracting the turning of the corner and a still less gyroscopic force counteracting the upsetting; but these items are so small they need not be considered.

The statements regarding the wheels also apply to a flywheel on a horizontal shaft crosswise in the chassis. A flywheel or motor revolving on a vertical shaft—Adams-Farwell style—exerts a very considerable gyroscopic force, counteracting the tendency to upset; but offers no resistance to the turning of corners. This feature is the base of strong claims made by the Adams-Farwell people, who point out that the gyroscopic force exerted by their motor not only makes the car hard to upset but very easy riding, as it also counteracts violent pitching of the chassis and acts as a shock absorber. The only centrifugal force entering into this problem is that acting on the entire mass of the car and forcing it toward the outside of the curve or circle. A low center of gravity does not change either gravity or inertia, but gives the former a leverage over the inertia and makes the car less apt to upset.

There is another force present in any car with a fore-and-aft crankshaft which either aids or resists the tendency to upset, depending on which way the motor revolves and which direction the car is turning in. This is the resultant torque which tends to upset the car in a direction opposite to that in which the crankshaft turns. As most motors are cranked in a clock-wise direction, that is, revolve toward the left side of the chassis, the common tendency is to upset toward the right hand. Race courses are laid out with the turns to the left and so it seems strange that builders of racing cars have not considered this point and made their cars less apt to turn turtle. The motor revolving on a vertical shaft would be ideal for racing, as it would be practically impossible to upset such a car with the motor running at high speed. The resultant torque of the motor on the vertical shaft tends to turn the car in one direction and the torque of the motor with the shaft crosswise tends to lift one end of the car; but these forces are not great enough to be worthy of consideration.—Glenn Muffly.

EFFECTS OF CARBONIC ACID GAS

New York—Editor Motor Age—I note in a recent issue of Motor Age an inquiry as to the effect carbonic acid gas has on rubber. I have used carbonic acid gas in connection with rubber for 20 years in the soda water business and never have noticed any bad effect on the rubber. One thing I have found is that it will expand with tires heating up and cause blowouts. I first commenced to use it on a motor delivery wagon 5 years ago and found it very successful for that purpose, as that was a slow-moving vehicle. When I commenced to use it on my touring car my trouble started. I had blow-outs galore. Carbonic acid gas in tubes is in a liquid frozen state. As it is liberated or heated it expands. If it is drawn too quickly from a tank, or from a tank lying down, it will come out in a liquid state, hence there will be water in the tubes and rusty valves will follow. I would advise anyone who cared to use it to draw slowly from an upright tank and not blow tires up too hard. —Dorman L. Ormsby.

TESTING A COIL

Sauk Centre, Minn.—Editor Motor Age—In Motor Age of January 30 answer is made to my question, but as I apparently failed to make myself clear I will ask the question again. Where are the wires of an ammeter placed to find how much current all the batteries are sending through the spark coil—that is, or ought to be, ½ or ¾ ampere measurement, to be adjusted by the vibrator of the coil? I want to know the total current from all the batteries and not separate tests for each battery cell. Please show a diagram if possible.—A. D. Carpenter.

It is hardly necessary to give a diagram. Touch one terminal of the ammeter to the binding post in the coil box with which the wire to the insulated timer contact is connected, and touch the other terminal of the ammeter to the binding post in the

coil box to which the ground wire is connected. This short-circuits the timer contact and causes the trembler to vibrate as long as contact is made. If the circuit is wired in the usual manner, the "carbon" or positive terminal of the ammeter should be touched to the insulated timer connection and the other to the ground. The ammeter reading will then represent the average current flowing through the coil. If there is more than one coil, test the trembler adjustment of each in the same manner.

HOT EXHAUST PIPE

Schenectady, N. Y.—Editor Motor Age—I am using a two-cylinder vertical motor, the cylinders being cast in one pair, both exhausting through the same pipe, which is about 1½-inch diameter. The exhaust pipe becomes red hot, especially on high speed and hill-climbing; otherwise the motor works perfectly and I have never had trouble from this excessive heat. I fear there may be trouble from fire, however. Is the exhaust pipe too small, and can you suggest a remedy?—L. F.

As L. F. does not state the dimensions of the cylinders, it can only be conjectured that the exhaust pipe is too small, or that the muffler is not sufficiently open. It is possible, however, that the mixture is wrong, probably by being too rich. Many carbureters will give a good mixture at one speed but not at another.

MOTOR BUGGY PARTS

Gas City, Kan.—Editor Motor Age—I have been informed by one who should know that there is a concern placing on the market a gasoline motor attachment that can be fitted to any ordinary buggy. If such is the case please give me the name and address, that I may correspond with the concern.—Dr. F. L. B. Leavell.

In the issue of January 16 Motor Age published a complete list of the makers of motor buggies; possibly one or more of these will sell such parts. In addition the Western Auto Parts Co., 28 North Desplaines street, Chicago, makes a knock-down motor buggy and would probably sell any parts desired.

NEW YORK-PARIS ENTRY FEE

Chicago, Ill.—Editor Motor Age—Can you tell me the amount of the entry fee for the New York-Paris race, which is scheduled to start from the metropolis February 12?—Robert Scott.

Write the New York Times, which is promoting the race with Le Matin, of Paris—Motor Age does not know the amount of the entry fee, if there is one.

POWER AND DESIGN

Chicago, Ill.—Editor Motor Age—Please let me know through the Readers' Clearing House what horsepower I will obtain from an air-cooled V-type motor with the cylinders set at an angle of 60 degrees, the bore being 3½ inches and the stroke 4 inches. It has 2-inch inlet and exhaust valves, both being mechanically operated, 36-inch flywheel, ¾-inch compression space and the cylinders, pistons and rings are ground. Also, what power will be developed by a single-cylinder motor 3⅜ by 3⅜ inches, this also being air-cooled, with 1½-inch inlet and exhaust mechanically-operated valves and 25-pound flywheel.—Martin Dobrochowski.

The larger engine should develop on paper about 3 horsepower per cylinder at 1,200 revolutions per minute and 4 horsepower at 1,600 revolutions per minute. The speed at which it may run will depend on the efficiency of the cooling arrangements. If the valves open directly into the cylinder head the compression space is much too small; it should be at least 1 inch long, and 1¼ inch is not likely to be too much. The smaller engine will deliver anywhere from 2½ to 3½ horsepower, depending on the speed found practicable.

USING ILLUMINATING GAS

Providence, R. I.—Editor Motor Age—Is it possible to make a gasoline engine run with illuminating gas without making any radical changes?—T. F. W.

Most stationary gas engines are made so they can be run with either illuminating gas or gasoline as fuel. In the use of illuminating gas it will be necessary to have a gas bag to maintain an equal pressure and to fit an air valve so as to be able to make the correct mixture. Write some maker of stationary gas engines, explaining the kind of engine desired to be used, giving the size of the inlet pipe, and in all probability the necessary outfit can be procured at no great expense.

LOCOMOBILE NOT IN

Bridgeport, Conn.—Editor Motor Age—Despite the reports in the New York papers and elsewhere, we are not going to enter a car in the Westchester stock chassis race. Our decision in this matter is not based on any unfavorable attitude toward the race, because we think it is a good thing in most respects and ought to be less expensive than a Vanderbilt race. Furthermore, it looks as if this race would have something of a national advertising value as well as an international sporting flavor. However, as you know, we have two specially-built racing cars all ready for the Vanderbilt cup race, and if this event is pulled off we would not want to consider any other large race on the grounds of the serious disturbance of routine work, which is an unavoidable result of a big race. This we have found from our experience to be a matter of the gravest importance. The stock race coming in the spring as it does would upset the daily routine of our business very seriously at a very critical time of the year, whereas a Vanderbilt cup race in the fall is different. The first racing car we ever built finished third in the Vanderbilt in 1905, defeating twelve out of fourteen foreign cars—a remarkable performance for a first trial—and in 1906, on the second attempt, we won the eliminating race hands down and made the fastest time in the Vanderbilt race. Had it not been for tire trouble we think we would have done better than in 1905, but as you know we were up against it. We are just laying for another opportunity to show what that car can do. Personally I rather regret our decision regarding the stock chassis race, as in the new 40 we have a car which I know could make a superb showing; it has the staying qualities of all earlier Locomobiles plus a very considerable increase in power, the engine developing 60 horsepower with make-and-break ignition.—J. A. Kingman, Locomobile Co. of America.

CARBURETER EFFICIENCY

Grover, Colo.—Editor Motor Age—Please answer through the medium of the Readers' Clearing House the following: Is a carbureter with a fixed air inlet and an adjustable needle valve more effective and more economical in the consumption of gasoline than one with a fixed needle and a throttle—which is adjustable—in the air intake pipe?—Fred Vanderwark.

Motor Age has never made experiments along the lines suggested and therefore is not in a position to answer the question with any degree of accuracy. It might give an opinion, but this would lead to disputes by those makers of carbureters who have different designs and different views on the matter. The natural way to decide this would be to make a test extending over a reasonable period, using first one carbureter and then another.

POWER OF A MOTOR

Cleveland, O.—Editor Motor Age—I would like to know the power of a two-cycle engine, 4-inch bore and 4-inch stroke, with a 1¼-inch compression space. Will it be necessary to have a 1¼-inch crankshaft for this?—R. H. J.

The power should be a trifle under 1 horsepower for each 100 revolutions per minute up to from 600 to 1,000 revolutions per minute, depending on whether the engine is designed for low or high speeds. The crankshaft diameter should not be less than 1½ inches if ordinary steel is used in its construction.

REPAIRS PLATINUM POINTS

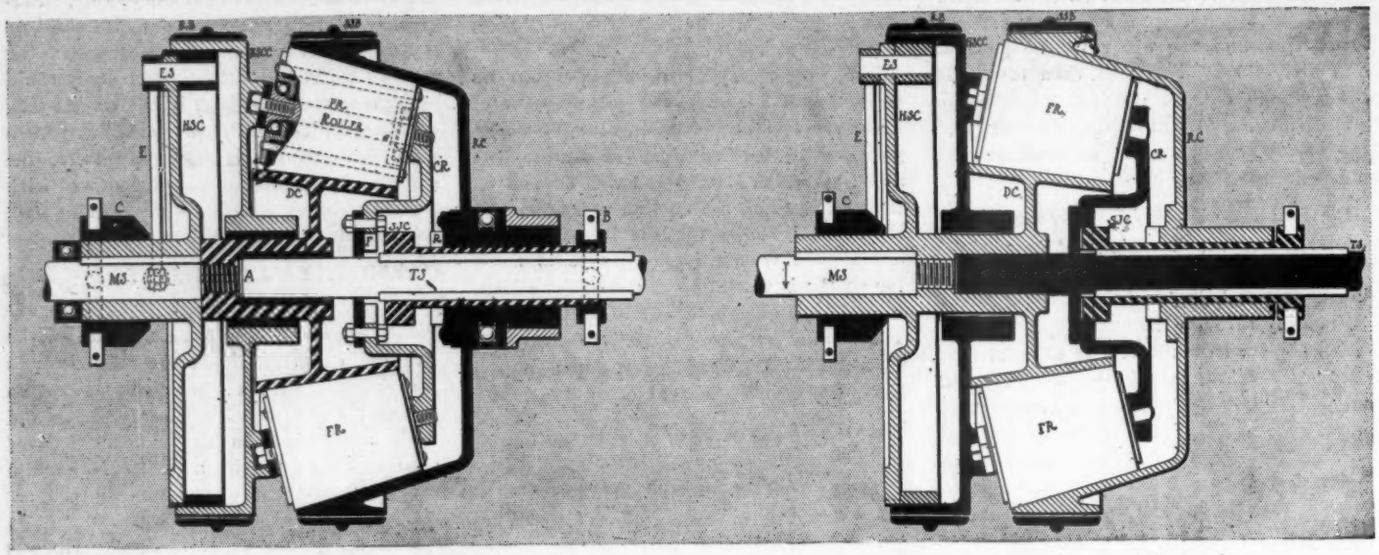
Waterloo, Ia.—Editor Motor Age—We are pleased to say in answer to an inquiry of E. Wilson, in the issue of Motor Age of January 23, who wants to know where he can have platinum points replaced on contact screws of spark coils, that we have made a specialty of this work the past half-dozen years, using only iridio-platinum, the best obtainable metal for this work.—Asquith Mfg. Co.

"AMERICAN CHAUFFEUR"

New Haven, Conn.—Editor Motor Age—Is there such a paper published as the American Chauffeur? If so, where is the publication office?—R. C. Keigivin.

The American Chauffeur is published at 1931 Broadway, New York city.

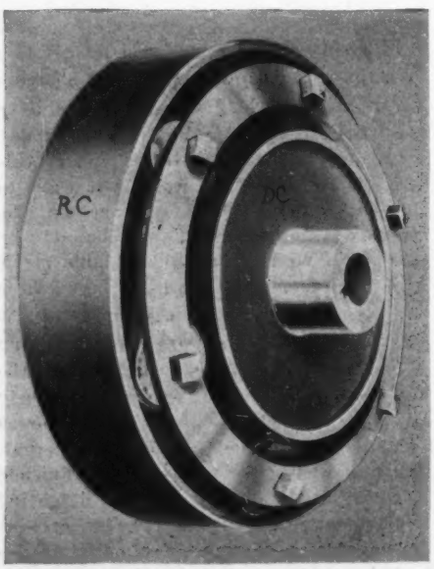
FIELD OF MOTOR CAR DEVELOPMENT



IN NEUTRAL POSITION—GEARLESS TRANSMISSION—IN DIRECT DRIVE

IN OFFERING its Gearless cars to the public for the second year, the Gearless Transmission Co., Rochester, N. Y., announces few changes have been made over the 1907 product, the friction transmission being fitted in all models. In all, three styles are made: A 75-horsepower six-cylinder seven-passenger touring car; the Gearless Greyhound roadster using the same chassis, and a 60-horsepower four-cylinder car, which, with the exception of the motor, is the same as the two 75-horsepower machines. In all three only four-cycle motors are used, and coupled with these are such acceptances of the day as dual ignition, positive circulation of water and oil and the abundant use of high strength steels. Three useful set brakes are positioned on each model listed, one of which acts on the gearset.

The transmission employed in all of these models, designated the Gearless, merits such appellation owing to the absence of gears. It has not a toothed or any other kind of gear in it; in place of gears are friction rollers, friction cups and friction cones. In a word, the transmission, with its two forward speeds and one reverse, is a planetary friction transmission giving direct drive on the high speed and employing a planetic movement of a series of plain fiber rollers on the slow forward speed and the reverse. In order to still further carry out the impression that it is a friction planetary set, it is sufficient to state that on direct drive the whole transmission set revolves as a unit as does a planetary gear transmission; and that for the slow forward speed a friction band is used to hold a portion of the set from revolving, which sets up a planetary movement of the series of rollers friction. For reverse speed a second friction band set is brought into use, holding another part of the transmission rigid and thus setting up a reverse drive. In the general view of the transmission shown in the car, the reverse band is marked RB—being next to the flywheel; the slow speed ahead band seen behind it is marked SSB—slow speed band. These are pedal-applied. In addition to operating these two bands there are two clutches used, making in all four parts to be operated in getting the speeds. One of these clutches, termed the high speed clutch, is an expansion clutch at the front end, its position being indicated by arrow H S C—high speed clutch. It is pedal-operated. The other clutch, a sliding jaw one, is carried at the rear of the transmission, not shown in the illustration but approximately within the transmission at the point marked by the arrow SJC, sliding jaw clutch. It is used on the two forward and the reverse speeds and is operated by side lever, the operating parts showing at the rear of the set.

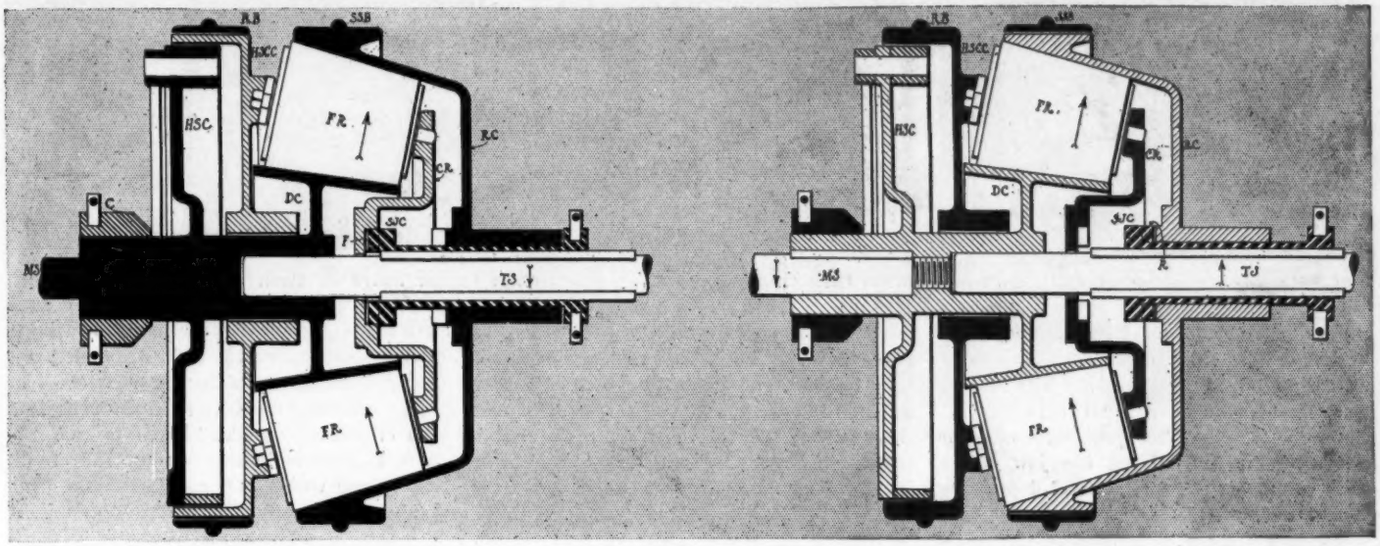


"CUP, CONE AND CAGE OF ROLLS"

Four sectional drawings illustrate this planetary friction transmission, one showing the position of the parts respectively in neutral, direct drive, slow speed ahead and reverse. In examining the neutral illustration, MS is the crankshaft or motor-shaft; TS is transmissionshaft connecting with the rear axle; these shafts meet end to end at the washer A and in all speeds the power has to be delivered from shaft MS to shaft TS. The reader should keep in mind always the exact path the power follows in doing this. Keyed on the motor-shaft MS is the expanding part HSC of the high speed clutch, which expands within HSCC, the high speed clutch cup, as an ordinary clutch expands within the flywheel, this expansion being effected by the sliding cone C which pushes to the side a rod E that attaches to and works a cam on the expander shaft ES.

The high speed cone cup, HSCC, carries a set of six conical fiber rollers FR, only two of which are shown; the opposite ends of the axes of these rollers are carried in a cage ring CR, which has a bearing on the transmissionshaft TS. The high speed cone cup HSCC has a babbitted bearing on the driving cone DR—shaded in black and white broad lines—which driving cone threads or screws onto the back end of the motorshaft MS. For reverse speed a reverse cup RC which has a babbitted bearing on the shaft TS is required and which cup encloses the fiber rollers so that the rollers are gripped between the driving cone DC and the reverse cup RC by spring action. The sliding jaw clutch, already

GEARLESS MOTOR CARS FOR 1908

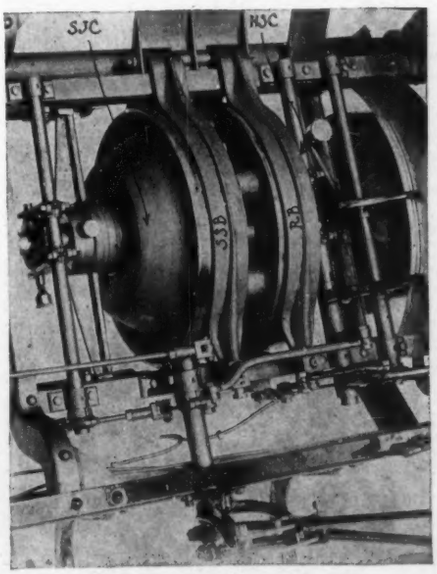


FOR SLOW SPEED AHEAD—GEARLESS TRANSMISSION—FOR REVERSE DRIVE

referred to, is marked SJC and is on a long sleeve feathered on the transmissionshaft and which when slid forward into the teeth F locks the cone carrier CR together with the rollers FR and the high speed cone cup HSCC to the transmissionshaft, which is done for the two forward speeds; and when slid back to mesh with the teeth R locks the reverse cup RC to the transmissionshaft, which is done for reverse speeds. The clamping band for slow speed is marked SSB and clamps on the reverse cup RC; and in reversing the reverse band RB is clamped on the high speed cone cup HSCC.

For direct drive: Look at the direct drive illustration; the sliding jaw clutch SJC is thrust forward, locking with the teeth F, and in the same way the cage carrier CR, the set of fiber rollers FR, and the high speed cone cup HSCC are locked to the transmissionshaft TS. Next the high-speed clutch HSC is expanded, which forms the connecting link, thereby making the connection between the motor and transmissionshafts. The fiber rollers are idle on their axes, but revolve with the transmissionshaft; the reverse cone cup RC also revolves with them, the whole device revolving as a dead unit—in brief as a flywheel. The driving cone DC is not needed, neither are the rollers FR, neither is the reverse cup RC. Because the driving cone DC is solid on the motorshaft as is the high speed clutch, these two are shown as one piece in the illustrations, except that showing the neutral position.

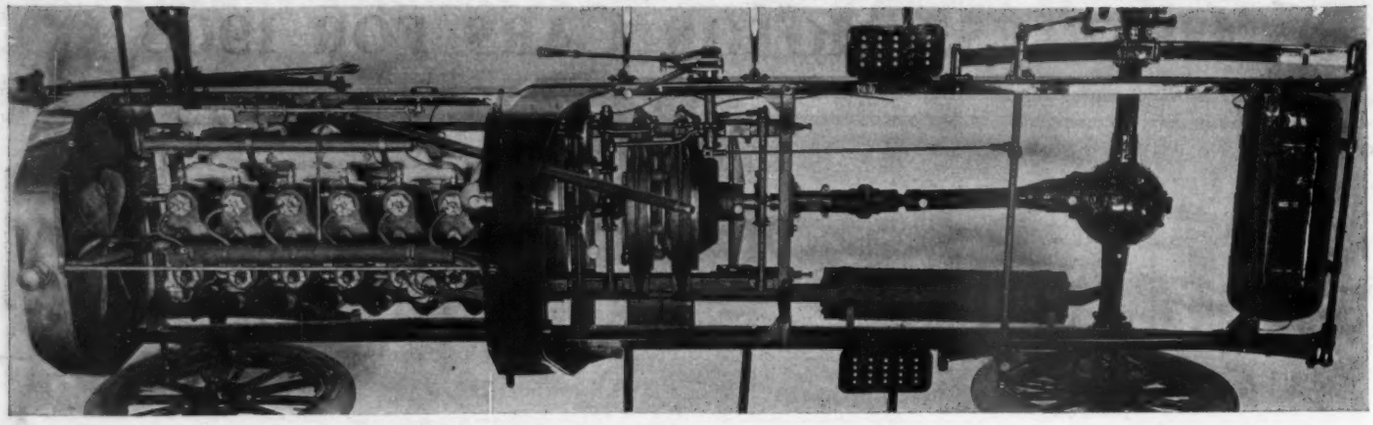
For slow speed ahead: The sliding jaw clutch is left forward engaged with the clutch teeth F; the high speed clutch HSC is not engaged but the slow speed band SSB is clamped onto the reverse cup RC and this cup remains stationary—it stops revolving. The rollers FR start revolving on their own axes and start a planetary movement as follows: The revolving of the motorshaft carries the driving cone DC with it and for convenience in this illustration they are shown as one solid block piece. The driving cone rubbing on the fiber roller FR tends to carry them around with it but this is resisted by the reverse cup RC—shown in black—on the outer side and which is gripped stationary tending to stop such movement. The result is the roller FR start revolving on their axes and at the same time try to keep pace with the revolving of the cone DC but at a much slower speed. This revolution is transmitted through the sliding jaw clutch SJC to the transmissionshaft TS and to the back axle of the car.



TRANSMISSION IN CAR

For reverse speed: The sliding jaw clutch SJC is slipped back to lock with the teeth R, thus locking the reverse cup R C to the transmissionshaft; next the reverse band RB is clamped on the high speed clutch cup HSCC, holding it stationary and with it the fiber rollers FR and the cage roller CR. Immediately the band RB is clamped the driving cone D C starts each of the six fiber rollers FR revolving on its axis. These rollers bearing on the reverse cup RC start it revolving, but in a direction opposite to that of the driving cone DC. Thus is the reverse speed sent from the motorshaft through the driving cone DC, thence through the revolving rollers FR to the reverse cup RC and by way of the sliding jaw clutch SJC to the transmissionshaft TS. The set of six fiber rollers are ball-bearing at each end, as shown in the illustration of the neutral position.

The control of the Gearless transmission is as follows: Before cranking the motor place the sliding jaw clutch in neutral, midway between the clutch teeth F and R. This disconnects the transmission from the rear axle and as the engine starts the transmission will revolve with it as a unit. The three pedals, for reverse at right—slow speed, middle and high speed clutch—at left—can be pressed without having any effect. To start forward, first move the sliding jaw clutch forward to engage at the same time having depressed the right pedal to slow down the revolution of the cage of rollers and make the clutching easier. This done, depress the low speed pedal and the car moves off on low speed. To go into high release the low speed pedal and depress the high speed clutch pedal. The clutch pedal will remain down until the reverse pedal is de-



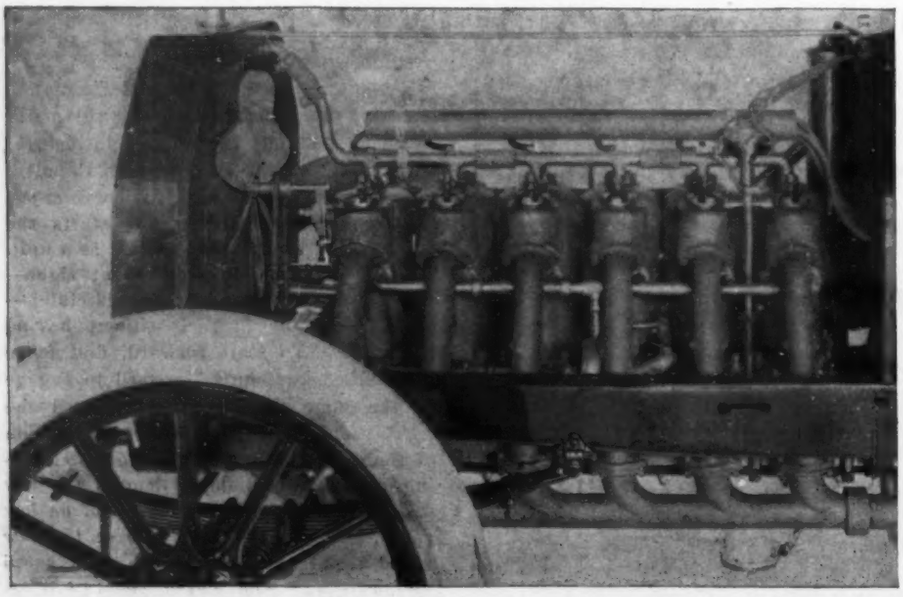
CHASSIS OF GEARLESS SIX-CYLINDER CARS WITH FRICTION GEARSET GIVING DIRECT DRIVE ON HIGH SPEED

pressed, which immediately disengages the high speed clutch. The reverse pedal serves as a brake on forward speed. The reverse may be thrown in without bringing the car to a stop by first pushing down the slow speed pedal, sliding the jaw clutch back to engage the teeth R and depressing the reverse pedal.

The same motor as is used in the Greyhound runabout is employed in the 75-horsepower Gearless seven-passenger touring car. Both are of the six-cylinder type with separate cylinder castings, with opposed expansions for containing the valves; dual ignition from gear-driven Bosch magneto and storage cells, two-jet carbureter with sliding piston throttle, seven-bearing crankshaft, Parson's white bronze throughout and the usual water pump, fan and honeycomb radiator cooling agents. An exceedingly compact disposition of the driven motor parts is obtained by using five spur gears at the forward end and encasing them all in an aluminum case. The steel pinion on the crankshaft drives a pair of bronze gears on the camshafts. These in turn drive steel pinions, one for the pump, carried centrally on the exhaust side, and the other for the magneto, carried to the front on the intake side. In connection with the double ignition set are two sets of plugs, one set vertically mounted above the intake valves, the other set horizontally into the intake valve chambers from the side; the commutator gear-driven from the exhaust camshaft is on a vertical shaft between the back two cylinders, the six-unit coil is on the dash and wires are carried in large-diameter tubings over the cylinder heads.

Structurally considered, the motor is a conventional one, with its integral cast grey iron cylinders, bored, ground and tested under water pressure before being assembled, the bore and stroke of them being 4 1/8 and 5 1/2 inches respectively; its crankshaft forged from a solid billet and finished by machining, balancing and grinding; its pistons fitted with four rings; its connecting rods nickel steel forgings; its crankcase a two-part aluminum casting, the upper portion supporting all of the bearings; its interchangeable valves, nickel steel forgings; and other parts in keeping with these enumerated.

In lubricating a vertical cylindrical oil tank is carried on the right side of the dash under the bonnet, from which oil flows by gravity to the main bearings; from these bearings it flows through bores in the crankshaft to the lower bearings of the connecting rods and thence falls into the crankcase splash; here it is collected in a receptacle in the base of the crankcase, from which it is pumped to the dash tank, ready for use again. Passing it through a double screen between the pump and tank does the work of filtering.



EXHAUST SIDE OF GEARLESS SIX-CYLINDER MOTOR

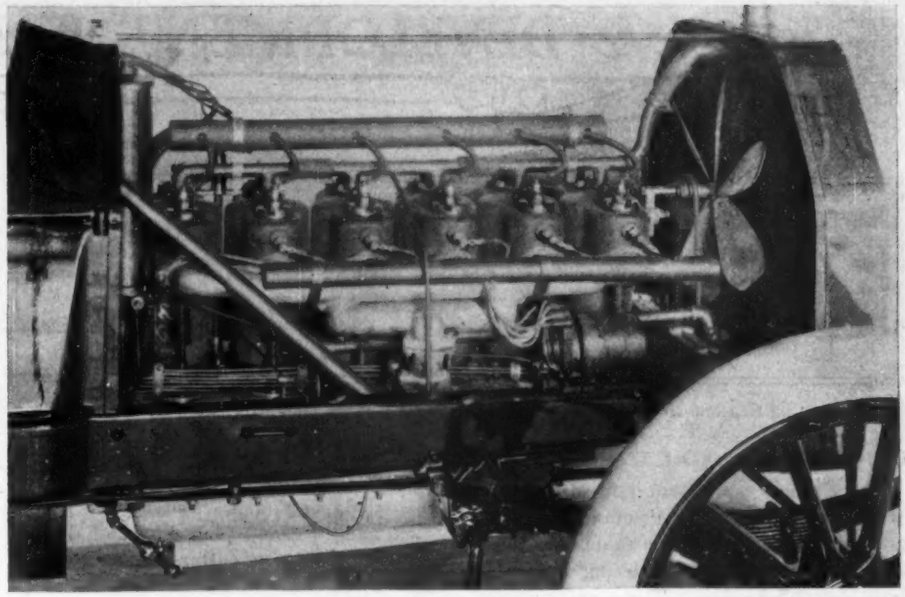
In the four-cylinder 60-horsepower car appear changes in design as compared with those adopted in the sixes. First, the cylinders are cast in pairs with valves on one side the bore and stroke 5 and 5¾ inches respectively; the dual ignition system in vogue has the magneto close to the dash on the right or valveless side, with the commutator on a short shaft angling to the right at 45 degrees, while the carbureter is immediately in front of the magneto and the mechanical oiler in front of the carbureter, thereby placing commutator, magneto, carbureter and oiler in one, two, three, four fashion on the valveless side. The two sets of plugs employed are carried over the intake and exhaust valves and the ignition wires are in a large tube above the cylinders.

Similarity exists in the running gear of the three models. All employ 126-inch wheelbases, carry 34-gallon gasoline tanks, use 36 by 4 and 4½-inch tires in front and rear, respectively; have honeycomb radiators positioned; employ pressed steel frames with a central vertical depth of 5 inches and 3-16-inch stock; use three sets of brakes, two bronze against steel expanding rear wheel brakes, two clamping brakes on the rear wheels and one service brake being the reverse band on the high-speed driving cup of the transmission; and worm and nut steering gear.

NEW MAXWELL MODEL

Another model added to the regular line of the Maxwell-Briscoe Motor Co., of Tarrytown, N. Y., is K, a four-passenger roadster using a folding rumble seat which has accommodation for two passengers and which when folded gives the impression of an enclosed rear baggage compartment. The chassis used is that of the 24-horsepower four-cylinder model D with 4¼-inch

cylinders, having added such minor alterations as to change the slope of the steering column and others to correspond with it. The chassis components included multiple disk clutch, sliding gear transmission, shaft drive with two cardan couplings in the shaft and the Maxwell divide rear axle. Ignition is from dry or storage cells, a magneto base being provided in case the buyer desires to fit that device. In lubricating the motor a force feed oiler is used in conjunction with a rather novel scheme for oiling the cylinder walls. Each cylinder chamber bears at its base a grooved brass ring which holds a quantity of oil and is kept filled from the main oiler with the overflow going into the crankcase. With every down stroke the piston dips into the oil ring and thereby obtains an even lubrication all around its circumference. The amount of oil fed to the oil ring is controlled through a sight feed on the dash. The wheelbase measures 96 inches, the wheels are 32 inches in diameter and the front and rear semi-elliptic springs measure respectively 36⅛ and 45¾ inches. Braking rests with internal and external brakes on the rear wheels. Made use of in the body is the sheet metal construction employed on all other cars of this make in which the sheet metal portions, together with the stamped mouldings, give a construction claimed to be as light as wood and stronger than aluminum.



INTAKE SIDE OF GEARLESS SIX-CYLINDER MOTOR

TAIL LAMP THAT SIGNALS

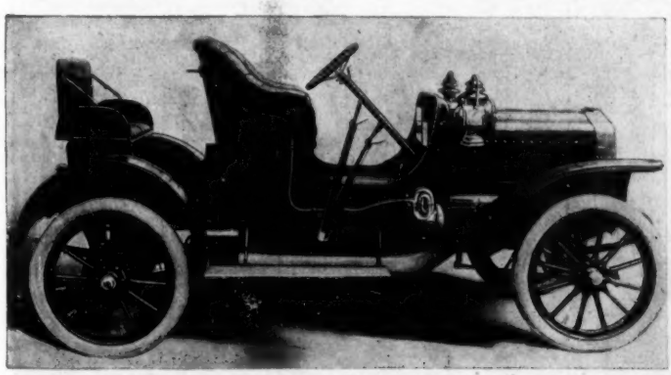
A new tale lamp, known as the Telltale tail lamp, is being marketed by the Royal Battery Co., New York City, by the use of which the motorist immediately knows if, for any reason, the light goes out. This tail lamp is electric, and the outfit consists of a 4-volt storage battery, an electric lamp, a governor, and the tell-tale bell or buzzer. Once connected up, the telltale bell or buzzer rings if the wire running to the tail lamp breaks or gets damaged, the electric bulb extinguishes, breaks, or shakes loose, the filament burns out, or the battery runs down and makes a dim light. The action is entirely automatic. The battery furnished with the outfit has 4 volts and 40 amperehours. The filament of the lamp is made of a newly discovered metal which, it is claimed, reduces the consumption of current to a minimum, and the makers guarantee 125 hours of light on a full charge of the battery.

USEFUL K AND M CARS

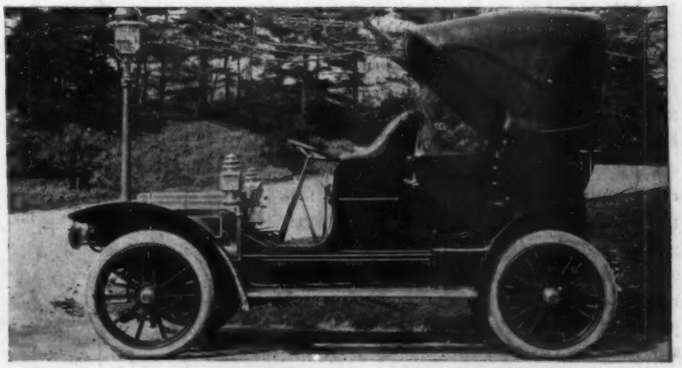
From a two or four-passenger pleasure car with top and storm equipments to a ½-ton delivery wagon with a carrying space 66 inches long and 36 inches wide in 1 minute; and from either the pleasure car or the delivery wagon to a stationary power plant for driving such farm essentials as wood saw, water pump, corn grinder, churn, root-cutter or washing machine in equally as short a time are the two cardinal claims made by the Kreider Machine Co., Lancaster, Pa., for its K and M motor buggies. As a pleasure vehicle the K and M are buggy types with 38-inch wheels carrying 2-inch solid rubber tires and carrying a long piano style of box with canopy top and a complete outfit of drop storm curtains for the immediate transformation of the vehicle into a limousine style should the occasion demand such change. The power plant located centrally under the car, is a two-cylinder 18-horsepower motor with 5⅛ by 4½-inch cylinders cooled by a couple of air fans. Jump spark ignition with current from dry cells, Schebler carbureter and force feed lubrication are motor features. The transmission includes a leather-faced clutch, speed variations are confined to two forward changes with the customary reverse, and drive to the back wheels is through a countershaft and chain. In the running gear are angle iron frame, with subframe for motor support, four elliptic springs, external band brakes, 102-inch wheelbase, 60-inch tread, two oil headlights and a tail lamp. Steering is through a hand wheel. In making the transformation from a four-passenger motor buggy to a ½-ton delivery wagon, the rear seat only is removed, leaving the canopy top to do service for an enclosed delivery vehicle, the drop curtains being also left in place. In effecting the second transformation to a stationary engine the vehicle is run to the spot where the power is required and stopped. By lifting the right step to the rear seat a shaft is disclosed and onto the end of this is slipped a pulley. A belt is run from this pulley to the piece of machinery.

MOTOR CAR LITERATURE

"Marguerite" is the name of the picture poster sent out by the Continental Rubber Works, Erie, Pa., and is a reproduction from the canvas of W. H. McEntee. The illustration depicts a woman in negligee leaning over the curved top of a luxurious divan in her boudoir.

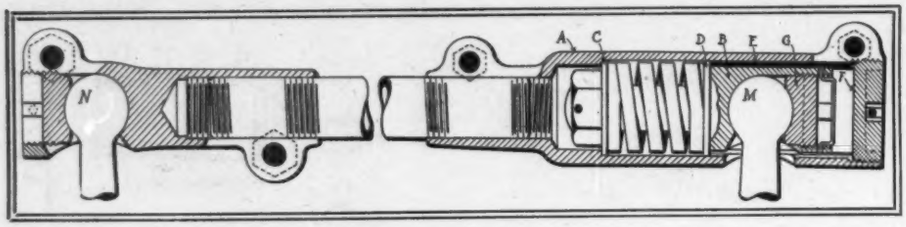


THE LATEST MAXWELL ROADSTER



AMERICAN MORS, 14-18-HORSEPOWER VICTORIA

DEVELOPMENT BRIEFS



BILLINGS & SPENCER SPRING STEERING CONNECTION FOR CARS

GUN FOR OIL AND GREASE

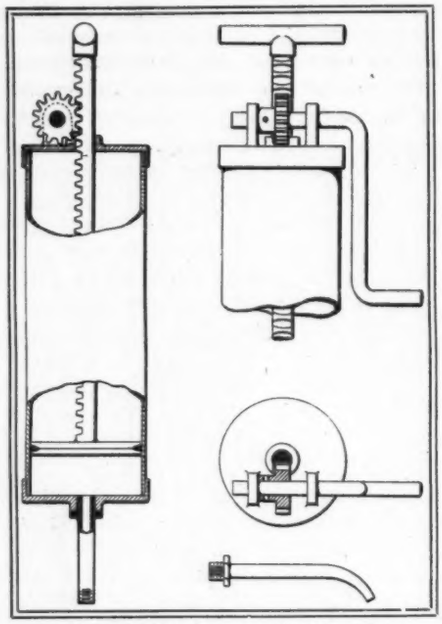
The Garage Equipment Co., Milwaukee, Wis., is marketing a combined oil and grease gun made of 3-inch seamless tubing 9 inches in length and having malleable iron top and bottom. The plunger has a T head so when oil is used the plunger is worked by grasping the head; but for the use of heavy grease a gear and rack are introduced. On the plunger rod is a rack and on the top of the barrel a pinion in mesh with it. The pinion shaft has a crank for working with the hand, thereby giving plenty of power to force out the heaviest grease. Two nozzles are fitted, one with a straight, the other with curved opening.

IMPORT SCHAFER BEARINGS

Barthel & Daly, 1717 Broadway, New York, are importing the Schafer ball bearings. The illustration herewith shows the bearing to consist of a single race of steel balls, each contained in a separate compartment, the spacers being shaped to the contour of the ball and held in place by a pair of side rings located in the opening between the outer and inner ring of the bearing. The bearing contains a great many more balls than other makes of the silent type, due to the small circumferential thickness of the spacers. The entire raceway is caged by a bronze covering to exclude dust and foreign particles.

REDUCES POST VIBRATION

In order to reduce the vibration of the steering post to a minimum the Billings & Spencer Co., Hartford Conn., has brought out a special style of spring connection for inserting between the radius arm on the steering gear and the drag link connecting the steering knuckles. This connection is made up of an outside case A, surrounding a ball and socket joint B, to which is attached a lug passing through a spiral spring. Washers C and D are placed at each end of this spring, and a nut at the end of the lug binds these parts together. This piece, made up of the aforesaid parts, is inserted into the end of the case A, after which the ball-arm M is placed in position through a hole in the side of the case A, and secured by castellated plug G. The slotted sleeve E is then inserted in the end of the case as far as washer D, surrounding the ball and socket. The whole is then secured by the castellated and threaded plug F, which is further secured by a cotter pin and binder lug. From the shoulder at C vibration in one direction acts upon the spring at washer C, and in the other direction at washer D through the sleeve E, which is held by plug F. This sleeve has a longitudinal slot just wide enough to pass over the neck of the ball-arm M after the ball has been placed in the socket and secured by plug G. This slotted sleeve, therefore, prevents the ball-arm from becoming detached from its socket should plug G become loosened or worn. This feature, acting as a safety lock between the steering post arm and the connection, eliminates the possibility of accident caused by these parts becoming disconnected.



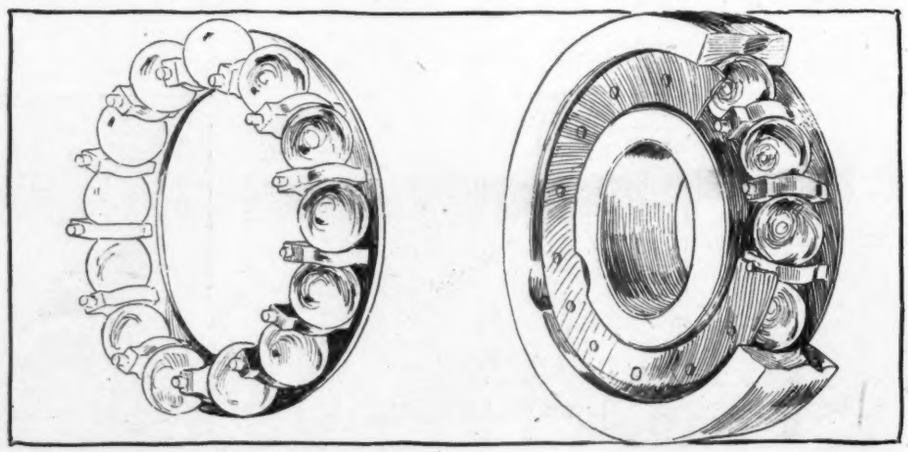
COMBINATION OIL AND GREASE GUN

ALUMALOYD FOR BODY WORK

With the advent of the aluminum body has come the manufacture by large aluminum houses of standard sheet aluminum sold in various sized sheets suitable for the different parts of a car body. Sheets of this nature are made by the Stark Rolling Mill Co., Canton, O., in sizes from 18 by 24 inches to 24 by 36 inches, and in gauges of 96 and 120. The sheets when shipped are packed in cases of 175 pounds each. They are suitable for working up into mud guards, bonnets, floor boards and bodywork of cars.

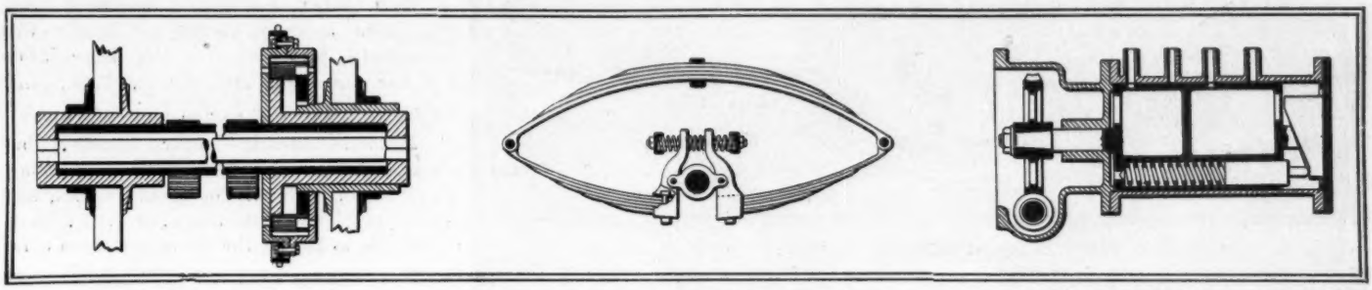
DESIGNED TO PROTECT TIRES

The Huntsville Motor Car Co., distributing agent for the Burman tire protectors, Huntsville, Ala., in describing its tire, refers to it as a combination rubber and fabric tread portion which not only covers and protects the tire tread but extends well down on the sides of the tire. It is not vulcanized or fastened by other mechanical means but relies on the inflation pressure of the tire to hold it in place. It is positioned when the tire is partially deflated. As the tire is inflated it fills the protector, tightening it as the inflation goes on. It has five layers of fabric and a thick rubber tread part. A continuous wire ring comprising several strands of spring steel piano wire is encased in each edge of the protector. These tire treads are intended to be used on new tires to protect them or on old tires to add to their days of usefulness.



THE SCHAFER ANNULAR BALL BEARING WITH SPACERS

CURRENT MOTOR CAR PATENTS



CATZEL'S NON-DIVIDED REAR AXLE

MEREDITH'S SPLIT ELLIPTIC SPRING

LANCIA'S LATEST LUBRICATOR

Combination Tire—No. 877,970, dated February 4; to O. Uhlmann, Taunton, Mass.—The patent refers to a double tube tire, in which the air chamber is half contained within a groove in the wheel felloe. Over the exposed half of the air tube is a semi-circle of thick rubber, of double thickness over the tread portion. This semi-circle rests on the rim and is held in place by straight side flanges. Binding these two parts together is what corresponds to the outer casing of a pneumatic tire and which is a casing of very thick rubber with beads at the sides, these beads resting between the straight flanges, already referred to, and clincher flanges secured to the wheel felloe by the same bolts that secure the straight flanges in place. The thickness of rubber in the tread part of the tire is equal to the thickness of the air chamber.

Elliptic Spring—No. 878,081, dated February 4; to C. A. Meredith, St. Louis, Mo.—The lower half of the inventor's full-elliptic spring is split where it normally rests upon the axle. After cutting it at this point and separating the ends a short vertical bracket is attached to each end; and pivoted to the center of each bracket is a trunnion for embracing the car axle. Above this trunnion is a transverse rod passing through the ends of the brackets and having three coil springs for restricting and restraining the relative movement of the brackets to each other, the idea being to use the three spiral springs in conjunction with the main spring.

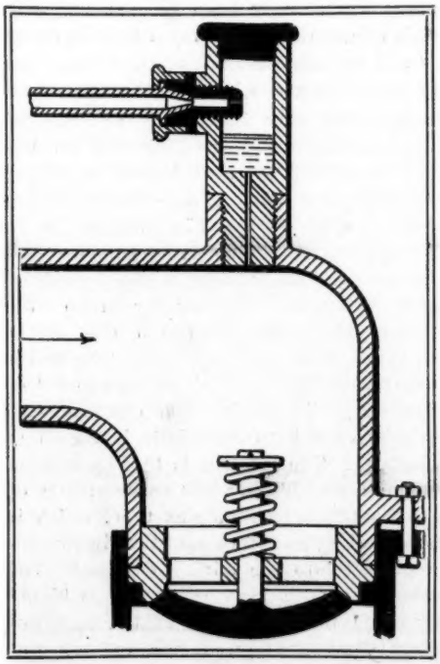
Non-Divided Axle—No. 878,074, dated February 4; to J. Latzel, London, Eng.—The axle is illustrated as intended for a car driven by a single chain, in which the chain drives through the differential located between the wheel and the car frame. The axle combines a one-piece tubing which carries the car weight and a one-piece rotable member within the tubing. The differential drives to the right wheel through a sleeve which attaches to the wheel hub; and also drives to the left wheel through a sleeve which passes through the hub of the right wheel and is a square fit over the end of the rotable shaft of the axle. On the left end of the rotable shaft is fitted to left road wheel by a square end on the shaft.

Lancia's Lubricator—No. 878,073, dated February 4; to V. Lancia, Turin, Italy—The oiler casing is a cylindrical one containing a revolving cylinder driven from the left end through a worm and gear. The cylinder carries two compartments in what appears its top part in the illustration; and one plunger in what might be termed its lower half. The plunger is reciprocated by a cam fixed in one end of the casing and by a spring at the left end of the plunger. As the cylinder revolves the piston is operated and the two compartments are filled with oil and deliver it through ducts that are shown connecting with the oiler casing.

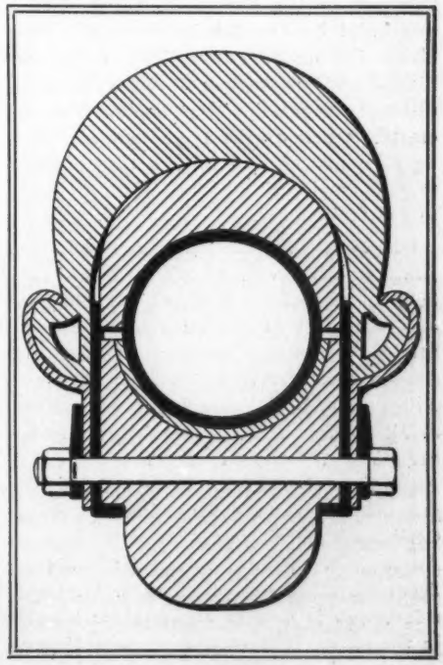
Drip Carbureter—No. 878,297, dated February 4; to L. M. J. C. Levasseur, Puteaux, Fr.—Instead of letting the gasoline mix with the air by rising through orifices in the top of a vertical nozzle the inventor drips the gasoline into the air current through a tube with a capillary bore. The mixing chamber is a right-angle tube with the air entering by way of a horizontal opening at the top and the mixture passing to the motor through a vertical opening at the bottom, this opening guarded by a poppet valve automatically operated. The gasoline inlet is directly above the inlet as seen in the illustration.

Air-Cooled Brakes—No. 878,454, dated February 4; to J. Caillet, Paris, Fr.—In the brake drums are small holes through which air is drawn by a system of tubing that couples with the exhaust exit from the muffler, so that the exhaust speed draws through the tubes an air current which air must perforce be drawn through the holes in the drums of the brakes, thereby cooling the brakes. The tubing connection is metal except for short lengths of hose adjacent to and for uniting with the brake drums.

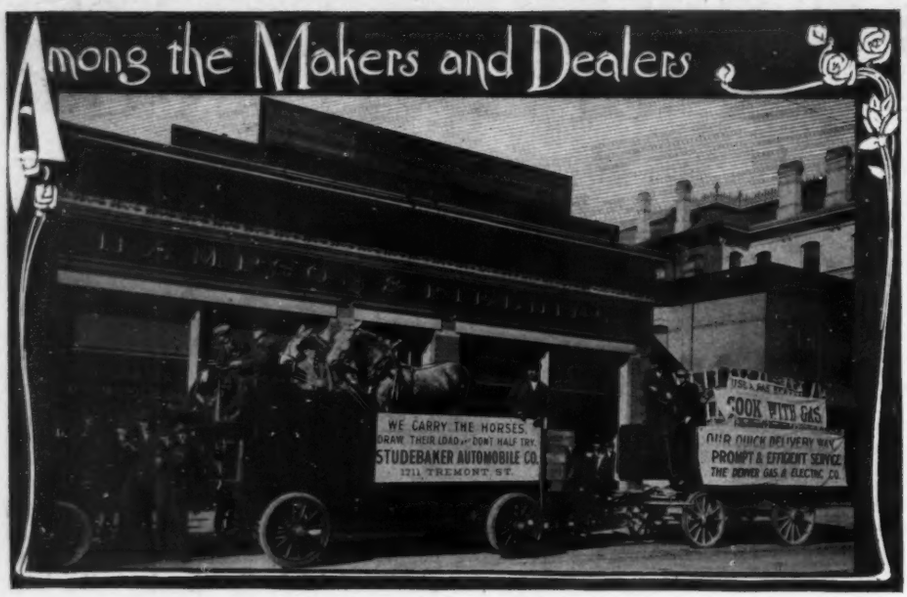
Chain Anti-Skid—No. 877,512, dated January 28; to W. T. Maxwell, Pittsburg, Pa.—The chain used in this work is zigzagged over the tread part of the tire and held in this position by short connecting chains, which secure it to the opposite flanges of the rim. The attachment by these side chains is alternated on each side of the tire.



LEVASSEUR'S DRIP CARBURETER



UHLMANN'S COMBINATION TIRE



FIRST ELECTRIC TRUCK—A STUDEBAKER—USED ON THE STREETS OF DENVER

Branch Moves—The Cleveland branch of Charles E. Miller, manufacturer, jobber, exporter and importer of motor car materials, has moved from 406 Erie street to 1829 Euclid avenue.

New Quaker Agencies—One result of the favorable impression made in Philadelphia by the performance of Webb Jay's Kissel-car in the Quaker City Motor Club's recent endurance run is the establishment there, at 729 South Broad street, of the first agency for the machine in Pennsylvania. It is understood that the new agency will also handle the Dorris.

Business Good in Hartford—As an evidence business is good in Hartford is a photograph herewith shows six freight cars on a spur track of the New York, New Haven and Hartford railroad at Hartford, Conn., each car loaded with Pope-Hartford machines destined for immediate shipment. The car in the immediate foreground is one build by the railroad company especially for motor cars. The doors are hinged and are located at the ends in addition to regulation side doors. The big electric truck of the Pope company is to be seen at the end of the track, and a touring car is being shifted from the truck to the freight car.

Old Officers Re-Elected—The Studebaker Brothers Mfg. Co., of South Bend, Ind., held its annual meeting and re-elected the old officers, who are as follows: J. M. Studebaker, Sr., president; George M. Studebaker, first vice-president; Nelson J. Riley, second vice-president and auditor; J. M. Studebaker, Jr., secretary; Clement Studebaker, treasurer; Frederick S. Fish, general counsel; Harry D. Johnson, general superintendent; Charles Arthur Carlisle, purchasing agent. The Studebaker Automobile Co. later retained the old officers with the exception of T. W. Goodridge, who is now in business for himself in the east. His position as general manager was given to Hayden Eames, of Cleveland, O. The other officers are: George M. Studebaker, president; Nelson J. Riley, vice-president; Clement Studebaker, treasurer; J. M. Studebaker, Jr., secretary; Charles Arthur Carlisle, purchasing agent.

Tobin in for Himself—Paul S. Tobin, who for a couple of years has been sales manager for the Mathewson Automobile Co. in Denver, has closed a contract with O. P. Fritchle as exclusive selling agent for the Fritchle electric, a Denver-made product. Mr. Tobin has also secured the agency of the Peerless. Showrooms are being fitted up at 1620 Broadway by the addition to the row.

A Babcock Recruit—Joseph Bennett has joined the sales department of the Babcock Electric Carriage Co. Previous to joining the Babcock forces Bennett was in charge of the Fisk Rubber Co.'s department in Philadelphia. He is also well known in Boston, where, after having handled the Diamond Rubber Co.'s goods in Philadelphia, he conducted the Boston branch for the same concern.

Have Pierce in Northwest—H. Paulman & Co., of Chicago, who have represented the Pierce-Arrow in that city for several years, have taken the northwest territory for that car and have opened a branch house in Minneapolis, which is in charge of R. J. Randolph. Harold Vorce, former sales manager of Knight & Kilbourne, makers of the Silent Knight, will be associated with the northwest branch.

Big Truck in Denver—The Studebaker Automobile Co. last week unloaded in Denver one of its great electric motor trucks and displayed it in a very effective way in traveling over the city streets. The truck itself weighs 4½ tons; the two horses placed in it weigh 3,000 pounds; the wagon loaded with gas ranges weighs 2,200 pounds and the ranges 6,000 pounds, making a total weight dragged by the motors close to 20,000 pounds. The work of the truck over the hilly part of the town was rendered just as efficiently as over the smooth, level asphalt pavements, and the demonstration stirred up considerable interest. This is the first electric motor truck to be received in Denver.

Two More Northern Agents—Among agencies recently closed to handle the Northern for 1908 are the Hutchinson Motor Car Co., Hutchinson, Kan., and James F. Hutchinson, Jr., Union, Ore.

Marvin Changes—Harry Marvin, formerly connected with the Pope company and also the Royal Tourist in Boston, has accepted a position with the J. W. Bowman Co. to handle the Stevens-Duryea cars.

Now Selling Jacksons—Newton A. Merritt, who has been connected with the New York branch of the Goodyear company, has resigned this position to take one with Charles W. Oathout, eastern representative of the Jackson, and is now on an extended tour through the southern states, visiting Jackson agencies and establishing new ones for the parent company.

Change in Buick Agency—A new Buick agency has been established in Pittsburg. W. A. Richwine, manager of the Hiland Automobile Co., and holding that position from the start of the company, resigned the management to accept a new deal which will establish an exclusive Buick agency for this section. The new concern will be named the Diamond Automobile Co., the principals being A. H. Sarver and Richwine.

King Orders Bowser Outfit—That the American invasion of Europe is not confined to motor cars alone, but also includes accessories is proved by a sale recently made by S. F. Bowser & Co., of Fort Wayne, Ind. This concern had previously made several sales of its long-distance gasoline storage outfits in Dresden and in a recent mail came an order from the king of Saxony for a 5-barrel equipment. This outfit has already been shipped and will soon be installed in the royal stables, where it will be plain evidence of the recognition of American goods by royalty.

New Mercedes Models—A schedule of the new models of the Mercedes car has been received by the Mercedes Direct Agency, 3 West Forty-fourth street, New York city. The leader is a 45-horsepower chain-drive chassis. The framework has been made considerably stronger and lighter than the former Mercedes. It has a new motor equipped with ball bearings. The motor will throttle down on high speed to a 4 or 5-mile gait, it is said. The clutch on the new car has been materially increased in diameter. The ignition is by high-tension magneto and plugs. The carbureter is of the 1904 Mercedes-Simplex type, which is improved by an attachment that introduces warm air into the mixing chamber. The steering gear is irreversible. It is highly sensitive to the control of the operator. As a demonstration of this the car was sent over a marked track twenty-five

times in succession. The steering wheel was set and then left alone until a certain distance had been covered. It was found the wheels traveled in the identical track each time, it is said.

Retailers Meet—At a meeting of the National Retail Automobile Dealers' Association, held in the Auditorium Annex, Chicago, last Saturday, for the purpose of reviewing the work accomplished since the Chicago show, reports were filed which showed a very gratifying increase in membership. The object of this association is to secure a uniform and systematic manner of handling the retail business where it concerns a dealer.

Injunction Sustained—The Avery Portable Lighting Co., of Milwaukee, informs Motor Age the United States Court of Appeals of the seventh circuit has sustained the injunction in favor of that concern. The injunction was granted by United States Circuit Judge Quarles, of Milwaukee, who restrained competitors from sending out circulars and literature designed for the purpose, it is claimed, of preventing the trade from purchasing the Avery gas tanks. An appeal was taken, but the restraining order has been sustained.

Handling Motor Devices—The Factory Sales Corporation, 235 Randolph street, Chicago, has become the sales manager for the United States for the motor devices manfactured by the Quincy-Manchester-Sargent Co., consisting of the Auto-Cle wrench and the Q & C standard motor car step. George T. Briggs, who has been associated with the Quincy-Manchester-Sargent Co. for 4 years, handling its motor car department, has identified himself with the Factory Sales Corporation and will handle his old lines together with the other outputs controlled by the Factory Sales Corporation.

Proving Cadillac Standardization—An exceedingly interesting idea has been conceived by I. S. Bennett, manager of the British selling agency for Cadillac cars. In order to demonstrate the advanced stage at which the Cadillac has arrived he has arranged with the Royal Automobile Club to take three of his cars, run them for some distance, then take them entirely to pieces, mixing up the parts so it will be impossible to distinguish which parts originally belonged to one car and which to another. The judges' committee will then apportion out the necessary parts to rebuild the cars. Bennett's workmen will then build up a car from each of the three piles of parts, without altering any single part, and without the use of any tools except the necessary spanners. In order to test their ability to supply parts upon demand and incidentally to add to the strictness of the test the committee has power, if it so desires, to send to the Cadillac showrooms for such parts as it may decide on, instead of using any of the original pieces taken from the cars. On the completion of the rebuilding, the three cars will each be run 500 miles at Brooklands and the time will be compared with their performances before they were dismembered.

Costello in Trade—C. J. Costello, located at 1303 Michigan avenue, Chicago, is handling motor car brass and steel accessories. He is agent for the Husk motor chimes and also handles cut-outs, etc.

Houpt Out of Philadelphia—The Harry S. Houpt Co. has abandoned its Philadelphia Thomas agency and will be succeeded by Joseph Keir, former manager of the Bergdoll Motor Car Co. Mr. Keir will continue the agency at its present location, 139-141 South Broad street.

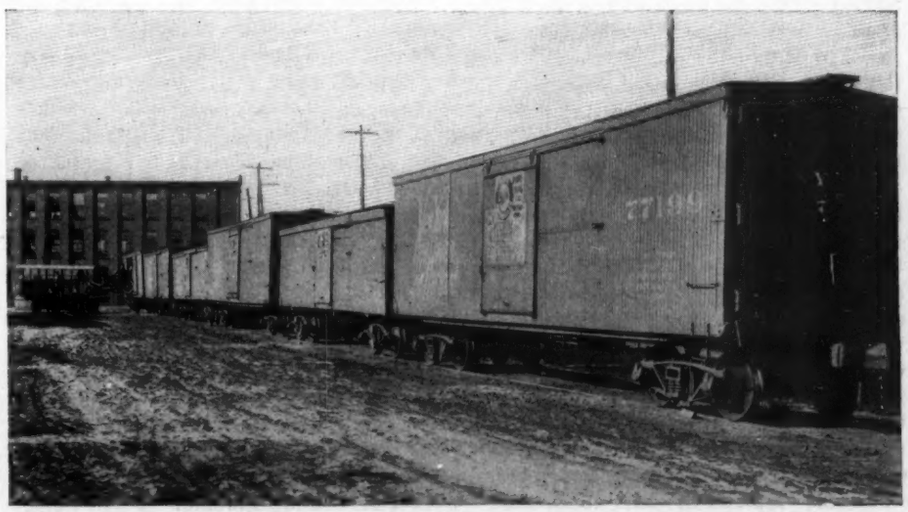
Big Garage Sold—One of the biggest real estate deals in motor car property in Boston went through a few days ago when the new Copley square garage changed hands. It is valued with the land at $350,000, and is considered a good paying property, for it is close to the railroads and to the show building. The original owner, M. H. Gulesian, who erected the property last fall, is a well-known Armenian, who was the subject of several "Black Hand" threats recently. He sold out to Charles H. Bond, a well-known business man of Boston. The garage is practically all filled now with motor concerns.

Lee Succeeds Mabley—At a largely attended meeting of the Importers' Automobile Salon the final reports and recommendations left over from the annual meeting were acted upon. The resignation of C. R. Mabley as general manager, submitted last month, was accepted and W. R. Lee named to succeed him. Mr. Lee will now continue the active managing of affairs with which he has become so familiar as Mr. Mabley's chief assistant during the past year on both the association and the motor car show work. The friendliness and co-operation of various associations in this city, whose interests do not conflict in many matters, was shown by the adoption of recommendations made by both the New York Automobile Trade Association and the Importers' Automobile Salon that they consolidate their headquarters in the accessible offices of the Importers' Automobile Salon in the Bryant Park building.

Back from Europe—A. F. Pitkin, who has been living in Europe and superintending the purchase and shipment of parts to the American Locomotive Automobile Co. for its Berliet cars, is now at the motor plant of the locomotive company at Providence.

New Jackson Agencies—Hutcheson Brothers, of Hempstead, L. I., who have just completed a garage on Long Island, have secured the Jackson agency for Nassau and Suffolk counties and will handle this line exclusively for 1908. Other agencies recently established for the Jackson line are: Edgar L. Gold, Nazareth, Pa.; Conried Brothers, Scranton, Pa.; Arthur Deisroth, Hazelton, Pa.; G. R. Krause, Allentown, Pa., and the Motor Car Co., of Washington, D. C.

Hoosier Opening Week—With an opening that will last an entire week, together with a number of interesting events not often seen in the state, Indianapolis dealers and manufacturers promise to stir things up from one end of the state to the other. They have decided to hold a spring show lasting from March 16 to March 21. A temporary organization has been formed with A. E. Vinton, of the G and J Tire Co., as chairman; P. D. Stubbs, of the American Motor Car Sales Co., as secretary, and R. H. Losey, of the Buick-Losey Co., as treasurer. All of the dealers and manufacturers will unite in the public events which will begin with a parade on the afternoon of March 16. In this all dealers, manufacturers and a large number of local owners, together with owners from all parts of the state, will participate, and several hundred cars, ranging from an electric runabout to a 5-ton truck, will be in line. In addition there will be an obstacle race and a hill-climbing contest, details of which will be completed at a meeting to be held February 18.



FREIGHT CAR AT HARTFORD DESIGNED ESPECIALLY FOR CARRYING MOTOR CARS

FROM THE FOUR WINDS

Motor as a Farm Hand—William J. Lyle, of Fox River, Wis., utilizes his car, a 12-horsepower single-cylinder Packard of the vintage of 1904, sawing wood, the motor being belted to a jack and from there to a saw. It is said to have cut 10 cords of hardwood in 6 hours.

Lozier Favors Contests—The Lozier 45-horsepower shaft-drive car will be one of the contestants in the Boston endurance run of the Bay State Automobile Club February 22. The Lozier Motor Co. has signified its intention of going into all endurance runs and contests to which its stock cars are eligible.

Lectures on Two-Cycle—Before a large audience at the club house of the Automobile Club of America, Harry A. Knox, president of the Atlas Motor Car Co., gave an interesting lecture on the two-cycle gasoline motor. Mr. Knox said in part: "Many different types of the two-cycle motor have been manufactured and also tried out experimentally. Before the value of compressing the charge in a gas engine was known, the two-cycle type of engine was the one manufactured and used the most. When the great advantage of compressing the charge in the cylinder became known the four-cycle type took the lead, as it proved more efficient, but recent improvements in the two-cycle engine has again placed the two-cycle type on an equal footing as regards efficiency." The lecture was received with applause.

Make Alcohol Tests—William Ohl and John Fishback, of Peoria, Ill., the former a chemist and the latter an engine builder, recently made a test of alcohol as a fuel. Fishback altered an ordinary 4-horsepower one-cylinder four-cycle marine motor only to a trifling extent. The carbureter was heated, the fuel intake warmed up and the leads from the mixer into the cylinder were shortened to the narrowest possible margin. This did away with a possibility of the vapor cooling in the slightest degree on its way into the cylinder head. Then the air intake was arranged so the cold air entered the cylinder close to the exhaust, giving a chance for warm air to be used instead of cold. Under these conditions 4 ounces of denatured alcohol operated the motor attached to a 16-inch two-fluke propeller, which run in a barrel of water at 600 revolutions per minute for 7 minutes 30 seconds. At no time was there a variation in the speed of the motor, while the vibration was barely noticeable, and there was no gas or odor from the exhaust. Returning to gasoline, 4 ounces operated the motor under exactly the same conditions, and at the same speed, 5 minutes 15 seconds. The room was full of smoke when the experiment was finished, the vibration of the motor was tremendous and the motor at times fell below the 600-per-minute standard, it is said. Further experiments proved that alcohol would turn the motor up to 1,000 revolutions per minute with the propeller submerged in the barrel, while the best gasoline could do was 800.

Building Big Fiat Racer—It is said the Fiat people are building a 200-horsepower racer capable of a speed of 112 miles an hour for the match race with Edge's Napier at Brooklands next spring. The Fiat people, however, state they are making two cars, which probably will be styled 140 horsepower, and the better of the two will be sent against the Napier.

A. C. A.'s Library—The Automobile Club of America's library committee reports that the library is completely indexed now by means of a system of cards under three different heads—the author's name, the title and the subject. The library consists of nearly 1,000 bound volumes and contains every book of any importance relating to motor cars published in English, French, German and Italian. It also contains nearly all the periodicals of importance from the date of the publication of the first volume to the present time, and a collection of road maps of the world wherever such maps are published.

Helped by Steamers—The garage of the White company in Cleveland, O., saved the day for the Cleveland Plain Dealer when its mechanical plant was totally destroyed by fire the morning of February 2. Shortly after the fire started Manager Adams, of the White garage, offered his assistance, and with all the available cars which were in the garage, directly across from the printing establishment, everything that could be removed was loaded into cars and hurried to temporary quarters. As a result of this quick action the paper had a special edition on the streets before the fire was out, and it did not miss an edition, although a greater portion of its plant was destroyed.

Scottish Show a Success—The eleventh annual Scottish show opened in the Waverley market, Edinburgh, January 24, being the only exhibition of the kind in Scotland this year, the Glasgow and Edinburgh promoters consolidating their forces. The affair proved a success, nearly all the prominent makes of cars being represented. The features of the show were the runs made from London to Edinburgh by the Gladiator, de Dion and Lorraine-Dietrich. Stocks in the de Dion attempted a non-motor-stop run, but twice on the trip the motor was stopped, once to fix the magneto and again when a mechanic carelessly killed the engine. The trip, however, was made on schedule. The Gladiator went through without a motor stop, although once the road was lost, the car landing in a plowed field. The Lorraine-Dietrich was handicapped by a heavy fog, as were the others, and at Doncaster there was a half-minute motor stop caused by the failure of pressure in the gasoline tank, due to the cap not having been screwed tight.

This Year's Ardennes—If the Ardennes race, one of the classics, is run this year, which seems most likely, the conditions will be different and a fresh course will be selected in Belgium, which will include Vielsalm, Troisponts, Baraque de Fraiture, Werbemont, and possibly Aywaille.

Work in Connecticut—State Highway Commissioner James H. MacDonald, of Connecticut has ordered an immediate survey of roads in the northern part of the state. The recent heavy fall of snow will defer the work for a few days. It is estimated that about the first of June next, all highways between Hartford and the Massachusettes line to Springfield will be paved with macadam. Several of the towns on the east side of the river, where bad roads now exist, are listed in the improvement scheme. The roads on the east side of the Connecticut are for the most part fairly good and are well cared for. A few more mud holes are due to be eliminated soon.

Credit Association Work—At the annual meeting of the Automobile Trade Credit Association the following new directors were elected: Geo. L. Holmes, of the Jones Speedometer Co.; Fred S. Wilson, assistant secretary Trenton Rubber Mfg. Co. The other members of the board of directors are: W. B. Lasher, Weed Chain Tire Grip Co.; Carl Kaufman, Motor Car Equipment Co.; H. B. Mirick, National Electrical Supply Co., Washington, D. C.; E. S. Frotz, Light Mfg. and Foundry Co., Pottstown, Pa. M. J. Martin, George Haws Co., New York, is treasurer. The office of the association is at 80 Wall street, New York. This organization, made up of prominent parts manufacturers and jobbers, banded together for mutual credit protection against those unworthy of credit, is claimed to be the best medium of credit information in the trade. It is not an enterprise for private gain, it is said, but is purely co-operative, being officered and managed by its members gratuitously. It is also the only exclusive credit body in the industry, and is confined to manufacturers and wholesalers. Last year the association was able to collect for its members 75 per cent of all their old and doubtful accounts, it is asserted. This collection service is free. Among the new members recently enrolled are Anderson & Wilkins, Firestone Tire and Rubber Co., Universal Electric Storage Battery Co., Chicago Battery Co., Nathan Novelty Mfg. Co., Western Electric Co.,

William Cramp and Sons Ship and Engine Building Co., Dow Tire Co., Rajah Auto Supply Co., Stevens-Duryea Co., Wheeler & Schebler.

First Race of Year—A voiturette race run in connection with the recent show at Turin, Italy, was the first racing event of the year. It was a short race covering a distance of 175 kilometers, and was won by Guippone in a Peugeot, with Alcyon in a Cissac second. The Peugeot averaged 28 miles an hour over heavy roads. The race was confined to single-cylinder cars.

Open Elkhart Club Rooms—Club rooms equipped by the Elkhart Garage Co. were formally opened February 5 at Elkhart, Ind., and the affair brought together a large number of the members of the Elkhart Automobile Club. One of the principal subjects treated in the numerous responses to toasts was the good roads question. Much enthusiasm was aroused, and the local club purposes to make an organized effort in the furtherance of the good roads scheme. At the suggestion of one of the speakers the club is to appoint a special good roads committee, which will solicit the co-operation of similar organizations in Indiana and Michigan and will bring pressure to bear upon the state and national legislators in the general plan for securing road improvement.

Cleveland's Lighting Scheme—Great preparations are being made for the Cleveland show, which is to be held next week. M. A. Singer, of New York, who had charge of the decorating of the last Madison Square garden show, is on the ground, decorating Central Armory, and he has a large force at work on the details. The arrangement will be different than heretofore in that there will be no central aisles. Instead the entire floor space in the center of the building will be one harmonious whole, and the spectators willl be permitted to wander at will through the various exhibits. High above the crowds, however, will be carried a broad beam, well lighted, on which the names of the various cars will be displayed. The entire beam will be a mass of incandescents, while hung from the ceiling there will be immense globes of lights, making the exhibition of cars and accessories notable for the illuminative effects.

Glidden at Madeira—Charles J. Glidden has written Boston friends that he reached Madeira by steamer on the first stretch of his annual tour and found that there were but two motor cars in the entire place. The streets are paved with hard cobblestones, making it very tough on tires, and the people there use sleds drawn by oxen to convey articles from place to place at all times of the year.

Good Road Boosters—Secretary Asa Goddard of the Ohio Good Roads Association, together with Vice-President W. M. Hager, of that organization, both of whom are Clevelanders, were largely instrumental in the success of a new good roads measure which passed the senate in that state a few days ago without a dissenting vote. This bill has also passed its second reading in the house and seems likely to come out with flying colors.

Hartford's Summer Plans—The Automobile Club of Hartford, which was particularly active during the season of 1907, contemplates many interesting events for this year. Judging from present indications, it would appear that Hartford motorists will have something they have never had before, that is, an endurance run, and the proposition has met with favor. The club has under way a series of gymhkana games at Charter park, scheduled for next May.

Franklin Economy—Manager H. G. Kilbourne, of the Boston agency of the Franklin, has just received word of two performances of type D Franklin cars that show remarkable economical features even though the owners, who are not professionals, made no attempt to create any records. Horatio Hathaway, Jr., of Dedham, in a 1908 Franklin, drove his car daily for a month, covering 945 miles, consuming 75 gallons of gasoline, 23 quarts of oil, six dry batteries and one puncture, at a total expenditure of $20.85, an average cost per mile of 2.2 cents. Mr. Caldwell, of Nashua, N. H., stated he had covered 7,500 miles in a 1907 car on 600 gallons of gasoline and an average of 1 gallon of oil for each 800 miles, an average of 13.5 miles per gallon of gasoline.

Another Sicilian Race—Sicily is going to be an important factor in the racing game this year, for in addition to the Targa Florio and the voiturette races, there will be a third contest, the Trinicria, which will be run over a distance of 450 kilometers and which is restricted to four-cylinder cars having a minimum bore of 90 millimeters and a maximum bore of 106. The winner gets a trophy and $2,000 in money.

Boston's Color Scheme—Manager Chester I. Campbell, of the Boston show, has completed the details for the decorations for the coming exhibition in March. It will be a Japanese scheme, and the big building will be turned into a massive Japanese garden. The stage will show scenes of the interior of the mikado's kingdom representing mountains. In the grand hall a large fountain will spout eight streams of various hues and with many goldfish swimming about it will be quite picturesque. The ceiling will be one immense chrysanthemum. With wisteria twining gracefully about everywhere and hundreds of Japanese lanterns interwoven with the flowers, the effect promises to be pretty.

Logs Ordered Moved—Owners of Menominee county are rejoicing in the fact that there are to be no more logs and obstructions piled along their roads. The county board has issued orders to jobbers and others that they must no longer pile timber of any kind along the right of way. The order was really passed by the county board several years ago, but it has never been enforced until now, as it was desired to facilitate the work of the woodmen. Much protest is going up from the jobbers, but it will be of no avail. There is much timber in the district, and motor accidents have been frequent as a result of carelessness in leaving the country roads obstructed. Expensive lawsuits have been brought against the county and much to the satisfaction of the motorists the county board has at last been aroused.

WISCONSIN MAN USES SINGLE-CYLINDER PACKARD FOR SAWING WOOD AND FOR PLEASURE

LEGAL LIGHTS AND SIDE LIGHTS

TWO BILLS IN RHODE ISLAND

The Rhode Island legislature will consider a new motor law and two bills have been prepared for presentation. A special legal committee representing the Rhode Island Automobile Club has one drafted for the club's O. K., while the other one has been sent in by Representative Olney Arnold, of Providence. While in many cases the two bills provide for the same things, there are a number of points in which they radically differ. One of the latter, which has attracted considerable notice, is in the speed limit regulations. Mr. Arnold's bill—the only one now before the assembly—makes 25 miles per hour for a distance of ⅛ mile prima facie evidence that the machine is being driven faster than is "reasonable and proper." This applies to any part of the entire state. The bill drafted by the Rhode Island Automobile club's committee makes no provision in regard to actual speed limit except in cities or the compact sections of towns and villages. In those sections the speed is limited to 15 miles per hour. A general provision is made that at all times cars shall not be driven faster than is "reasonable and proper." This clause makes it allowable for a motorist to drive at any speed outside a city or compact section of a town or village if he thinks it proper. Among the provisions of Mr. Arnold's bill are the following: Every driver of a motor car must have a license to operate a motor car and must always have that license with him while operating a motor car. It is provided that if there is a licensed operator in the motor car, another unlicensed person may operate the machine, but the licensed operator is held jointly responsible for whatever trouble there may be. Ten days of grace are provided for in the case of visiting motorists from other states. After that time they must take out a license as well as register their car. No intoxicated person may operate a motor car. Motorists must stop if any horse or other draft animal becomes frightened at the approach of the machine. Town councils are expressly prohibited from making ordinances, by-laws or resolutions respecting the speed of motor cars, except in the event of shows, street parades, etc. The penalties for violations of the provisions of the bill are divided into classes. Violators of sections 11, 12 and 13, which provide, respectively, about the speed limit, the stopping of motors when draft animals become frightened, and concerning intoxicated persons operating machines, are subject to a fine of not more than $200 or imprisonment for not more than 30 days or both for first offense. For second offense the fine is not more than $500 and imprisonment not more than 60 days. This applies to subsequent offenses also. Violators of any other provision in the Arnold bill are subject to a fine of not more than $100 and imprisonment not exceeding 30 days or both. The automobile club's bill makes the penalties larger and in the discretion of the court. It provides for a fine of from $10 to $500 or imprisonment from 10 days to 1 year in jail, or both, for the violation of any of the provisions of the bill. Mr. Arnold's bill provides for registration fees in ratio to the horsepower of the motor. For 20 horsepower or less the fee is to be $2; 20 to 30 horsepower, $3; over 30 horsepower, $5; manufacturers' or dealers' certificates, $10; motor cycles, 50 cents; license to operate motor cars, $2; to operate motor cycles, 50 cents. All moneys so received are to be used for the building or the support of good roads in the state.

WILL FIGHT WHEEL TAX

The Chicago Motor Club, through its attorney, John C. McKeown, is about to attack the legality of the wheel tax recently passed by the Chicago city council. Lawyer McKeown has gone through the measure carefully and declares that in his opinion the ordinance in so far as it relates to motor cars is invalid, for the following, among other, reasons: First—The ordinance, if admitted to be in accordance with the statute, violates the provisions of the constitution requiring uniformity of taxation. Second—The city council has no power under the cities and villages act, as amended December 31, 1907, to pass such ordinance. Third—The ordinance as passed is expressly prohibited by senate bill No. 5, relating to motor vehicles, which became a law in the state of Illinois July 1 1907, otherwise known as the motor car law. After citing various authorities, the lawyer quotes section 13 of the motor vehicle law as showing the effect of that measure which says: "No owner of a motor vehicle who shall have obtained a certificate from the secretary of state as hereinbefore provided shall be required to obtain any other license or permit to use or operate the same, nor shall such owner be required to display upon his motor vehicle any other number than the registration seal issued by the secretary of state, or excluded or prohibited from or limited in the free use of his said motor vehicle . . . nor be required to comply with the other provisions or conditions as to the use of said motor vehicles, except as in this act provided." The motorists are not alone in this fight, the first gun in the battle being fired Monday when the Harder's Storage and Van Co., claiming to speak for the owners of 75,000 vehicles, filed a plea for an injunction to restrain the city from enforcing the wheel tax.

READY FOR CONGRESS

Arrangements have been perfected for a hearing before the subcommittee of the judiciary committee of the house of representatives on the Cocks bill providing for federal registration of motor cars. February 19 has been selected as the date for the hearing and it is hoped to have present at that time as many representatives of motor clubs as possible. According to information received by Leroy Mark, secretary of the Automobile Club of Washington, thirty-five club presidents are expected to appear before the subcommittee. Charles T. Terry, chairman of the legislative board of the A. A. A.; F. H. Elliott, secretary of that organization; President Yellott, of the Maryland Automobile Club; R. B. Caverly and Leroy Mark, president and secretary, respectively, of the Automobile Club of Washington, and Representative W. W. Cocks, of New York, author of the federal registration bill, held a conference in Washington last week and framed up a plan of action regarding the proposed legislation. It has been decided to present a mass of testimony in favor of the Cocks bill and there is good reason to believe the committee will report speedily the bill with a recommendation that it be enacted. The subcommittee which has the Cocks bill in hand is composed of Representative Tirrell, chairman; Representative Caulfield, of Missouri, and Representative Brantley, of Georgia. Chairman Tirrell is an enthusiastic motorist and is expected to give considerable aid in getting favorable action on the bill.

WOULD TAX BY WEIGHT

According to the way of thinking of Assemblyman Joseph M. Fowler, of Ulster county, New York, the best way to levy a motor car tax is by weight, so he has introduced at Albany a bill calling for a tax of 50 cents a hundred pounds or fraction thereof, to be collected by the secretary of state and to be used by the state engineer for the repair and maintenance of highways. The measure also provides that by July 1 each year the secretary of state shall prepare a list of motor cars registered with the department and, on request, furnish it to various police officials throughout the state, and to prepare once a month a supplementary list. Motor car licenses from other states are to be recognized, providing the New York licenses receive the same consideration in those states. Operating a machine without the consent of the owner is made punishable by a fine of $100 or 6 months in prison, or both. This bill, like many others which have either been introduced or on which such action is contemplated, contains provisions which are included in the uniform motor vehicle bill, which is soon to be introduced.

BRIEF BUSINESS ANNOUNCEMENTS

Baltimore, Md.—The Blome Auto Co. has been appointed local agent for the Moon.

Providence, R. I.—The Shepard company has been appointed agent for the Haynes during 1908.

Columbus, O.—The Krotz Defiance Auto-Buggy Co., of Defiance, has filed articles of incorporation with a capital stock of $50,000.

New Britain, Conn.—The Gold & Weinberg Co. has been incorporated with a capital stock of $5,000, and will manufacture motor cars and other vehicles.

Syracuse, N. Y.—Former Mayor Jacob Ames has been re-elected president of the Buffalo Auto Station, which operates one of the largest garages in the state outside of New York city.

Hartford, Conn.—A. Frances, formerly in the motor car business in this city, has gone to St. Paul, Minn., where he has been appointed manager of one of the largest garages in that city.

Boston, Mass.—In addition to acting as agent for the Allen-Kingston, the Bartlett-Jacobs Co., of 837 Boylston street, will also represent the Mercedes and de Dietrich cars in New England.

New York—In the future the Broadway Rubber Tire Works, of 51 West Sixty-third street, will be under the sole management of Otto Braunwarth. Mr. Folsom, formerly associated with him, has sold out.

Brooklyn, N. Y.—Antonio Massari has been elected general manager of the sales department of the Anchor Tire Co. He will make his headquarters at the company's new salesrooms at 88 Chambers street, New York city.

Philadelphia, Pa.—The Quaker City Automobile Co. has secured the services of Robert W. Blake, who was formerly the manager of the local branch of the Knox Automobile Co. He will be in charge of the Franklin cars.

Pittsburg, Pa.—Application will shortly be made for a charter for a new company to be known as the Fort Pitt Motor Mfg. Co. The new concern is to design, manufacture and deal in gasoline vehicles and motor car accessories.

Milwaukee, Wis.—The Brenkel-Anger Co., which is to engage in the manufacture of motor cars, has been incorporated. The capital stock is given at $10,000 and the incorporators are A. C. Brenkel, W. A. Anger and J. T. Drought.

New York—The Hol-Tan company will soon be installed in its new salesrooms on Forty-ninth street, between Broadway and Eighth avenue. More than $50,000 worth of machinery has been installed, and the new machine shop will be able to undertake repairs of all kinds, and even will have facilities for the building of a new car complete.

San Francisco, Cal.—A branch of the Renault company has been opened at 316-322 Van Ness avenue.

Racine, Wis.—The Miller Motor Co. has purchased a lot on Main street, and will commence the erection of a garage.

Clinton, N. Y.—H. S. Powell, of this city, has assigned to the Powell Muffler and Timer Co., of Utica, a patent for a muffler for explosive engines.

Harrison, N. J.—Plans are being prepared by Architect Joseph Kennedy, of North Fourth street, for the erection of a garage on Harrison street for Thomas J. Butler.

Newark, N. J.—The Hygrade Motor Car Co., has made arrangements to represent the Geissler storage battery and the Engine road lamps. In addition it is the local agent for the Ford.

Houston, Tex.—The Southern Motor Car Co. has taken over the old Christian church at the corner of Caroline street and Capitol avenue and will convert it into a garage and machine shop.

Brooklyn, N. Y.—Louis Kelso and E. H. Barnum will in the future be connected with the I. S. Remson Co.'s motor car department. Mr. Kelso will devote his entire attention to the interests of the Locomobile, while Mr. Barnum is to handle the Buick exclusively. Mr. Kelso formerly was the local manager for the White company, while Mr. Barnum had the agencies for the Jackson and more recently for the Columbia car.

Albany, N. Y.—The N. S. U. Motor Co., of New York, has been incorporated with a capital stock of $10,000.

Brooklyn, N. Y.—I. C. Kirkha has removed to the garage formerly occupied by the Carlson Auto Co., on Bedford avenue.

Newark, N. J.—The New York Auto Top Co., of Halsey street, has been appointed exclusive agent for the New England wind shield.

Albany, N. Y.—The St. Nicholas Avenue garage, of New York city, has filed an amendment to its charter, increasing its capital stock from $10,000 to $50,000.

New Haven, Conn.—The Reichert Automobile Station has just closed a contract with C. S. Henshaw, the Haynes factory representative, for the agency for the Haynes.

Allentown, Pa.—In the future the Mitchell will be represented in this city by Wilson F. Rabenold, of the Hamilton garage. The agency was formerly held by James D. Reber.

Cleveland, O.—Robert J. Durst, formerly connected with the local branch of the Ford company, has joined the selling force of the Wentworth Motor Car Co., agent for the Mora and Ford.

Milwaukee, Wis.—The Meiselbach Motor Wagon Co. has been incorporated in the state of Illinois with a capital stock of $10,000. The location will be in Chicago, and will be a branch of the firm in Milwaukee.

Trenton, N. J.—In the future Swift's garage, at Greenwood avenue and Chambers street, will act as the sub-agent for the Franklin. A contract to that effect has just been closed with W. P. Kent, the local agent.

Boston, Mass.—Graham's Automobile Spring and Appliance Co., of this city, has filed articles of incorporation with a capital stock of $50,000. J. A. Watson is the president of the company and J. Watson will act as treasurer.

Racine, Wis.—The Miller Motor Co. has been organized with a capital of $25,000. The incorporators are J. R. Miller, W. J. Miller and P. J. Meyers. The company is to engage in the business of repairing, selling and rebuilding of vehicles and machinery of all kinds.

Cleveland, O.—Judge Lacombe, of the United States circuit court, has appointed Arthur Berry auxiliary receiver for the property in New York city, of the Royal Motor Car Co. The Superior Savings and Trust Co., of this city, was appointed receiver in Ohio some time ago.

Boston, Mass.—Crown Motor Vehicle Co.; capital stock, $50,000; to deal in motor cars. Incorporators: William A. Shafer, Frank Dodge and J. E. Graves.

Boston, Mass.—Gordon Automobile Supply Co.; capital stock, $10,000; to deal in motor car supplies. President and treasurer, Abraham Gordon, of Medway.

Syracuse, N. Y.—Auto Transit Co.; capital stock, $5,000; to engage in the manufacture of motors. Incorporators: W. H. Murphy, E. C. Burbridge and S. G. Schlachter, all of Syracuse.

New York—Wyatt & Listman; capital stock, $4,000; to engage in the manufacture of motor cars. Incorporators: J. M. Wyatt, J. E. Haskins and H. E. Listman.

New York—General Taximeter Co.; capital stock, $5,000; to operate motor cabs, etc. Incorporators: Alfred Ely, J. T. Riddle.

New York—Comet Motor Trucking Co.; capital stock, $150,000; to do an express and trucking business and store and repair vehicles. Incorporators: L. E. Sanders, A. E. Harrell and Otto Bluhm.

New York—New York Livery and Auto Co.; capital stock, $5,000; to deal in motor cars, cabs, carriages, etc. Incorporators: C. K. Lexow, J. J. Lawler.

Dover, Del.—Motor Omnibus Co.; capital stock, $45,000. Incorporators: H. L. Rice, E. S. Hellings and W. M. Pyle.

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